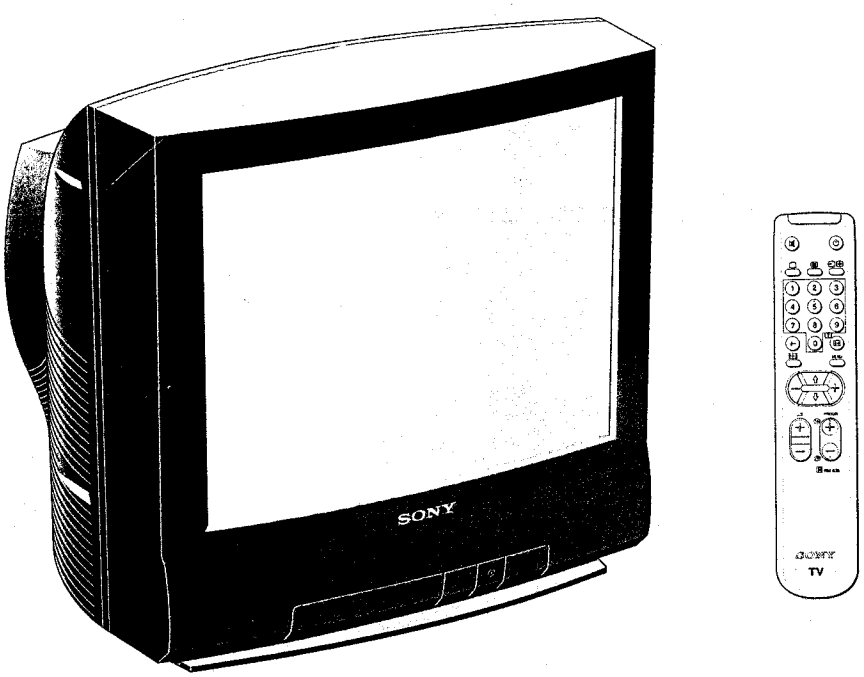
SERVICE MANUAL

BE-4A CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-21M1A	RM-836	Italian	SCC-J05E-A
KV-21T1A	RM-836	Italian	SCC-J05D-A
KV-21M1B	RM-836	French	SCC-J06G-A
KV-21T1B	RM-836	French	SCC-J06F-A
KV-21M1D	RM-836	AEP	SCC-J08F-A
KV-21T1D	RM-836	AEP	SCC-J08E-A
KV-21M1E	RM-836	Spanish	SCC-J04F-A
KV-21T1E	RM-836	Spanish	SCC-J04E-A
KV-21M1K	RM-836	OIRT	SCC-J03J-A
KV-21T1K	RM-836	OIRT	SCC-J03G-A
KV-21M1L	RM-836	Irish	SCC-J02D-A
KV-21T1L	RM-836	Irish	SCC-J02C-A
KV-21T1R	RM-836	OIRT	SCC-J03H-A
KV-21M1U	RM-836	UK	SCC-J01E-A
KV-21T1U	RM-836	UK	SCC-J01D-A



MICROFILM

TRINITRON® COLOR TV

SONY®

ITEM MODEL	Television System	Channel Coverage	Colour System
Italian	B/G/H	VHF: E2-E12, S1-S20 UHF: E21-E69, S21-S41 HYPER: S1-S41	PAL
French	B/G/H, L	VHF: E2-E12, F2-F10, B-Q UHF: E21-E69, F21-F69 HYPER: S1-S41	PAL, SECAM
AEP	B/G/H	VHF: E2-E12 UHF: E21-E69 HYPER: S1-S41	PAL, SECAM
Spanish	B/G/H	VHF: E2-E12 UHF: E21-E69 HYPER: S1-S41	PAL
OIRT	B/G, D/K	B/G VHF: E2-E12 UHF: E21-E69 D/K VHF: R01-R12 UHF: R21-R69 Hyper : S1-S41	PAL, SECAM
Irish UK	I	UHF: U21-U69 VHF: A-J (Irish) UHF: U21-U69 (UK)	PAL

MODEL	21M1A 21T1A	21M1B 21T1B	21M1D 21T1D	21M1E 21T1E	21M1K 21T1K 21T1R	21M1L 21T1L	21M1U 21T1U
Power Consumption	39W	58Wh	58W	58W	58W	75W	75W

SPECIFICATIONS

Picture Tube: Super Trinitron
Approx. 54.5 cm (21 inches)
(Approx. 51 cm picture measured diagonally)

Rear/Front Terminals

[REAR]

- 1 21-pin Euro connector (CENELEC standard)
- Inputs for audio / video signals
- Inputs for RGB

[FRONT]

- Video (phono jack)
- Audio (phono jacks)
- Headhpone jack - minijack

Sound output	4W (RMS) 5W (music power)
Dimensions	513x475x475 mm approx.
Weight	Approx. 21.5 kg
Supplied accessories	RM-836 Remote Commander (1) IEC designated batteries (2)
Other features	TELETEXT (for KV-21T1 models)

[RM-836]

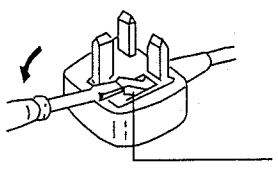
Remote control system	Infrared control
Power requirements	3V dc (2 batteries) R6 (size AA)
Dimensions	Approx. 210x45x24 mm (w/h/d)
Weight	Approx. 90g (Not including battery)

Design and specifications are subject to change without notice.

Item \ Model name	KV-21M1A KV-21T1A	KV-21M1B KV-21T1B	KV-21M1D KV-21T1D	KV-21M1E KV-21T1E	KV-21M1K KV-21T1K KV-21T1R	KV-21M1L KV-21T1L KV-21M1U KV-21T1U
PIP	OFF	OFF	OFF	OFF	OFF	OFF
MPIP	OFF	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON	ON
Scart 2	OFF	OFF	OFF	OFF	OFF	OFF
Front in (3)	ON	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	OFF	OFF	OFF	OFF	OFF	OFF
Norm B/G/H	ON	ON	ON	ON	ON	OFF
Norm I	OFF	OFF	OFF	OFF	OFF	ON
Norm D/K	OFF	OFF	OFF	OFF	ON	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF
Language Preset	Italian	French	German	Spanish	OIRT	English

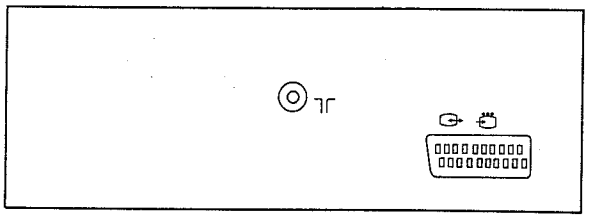
WARNING (KV-21M1L/21T1L/21M1U/21T1U only)

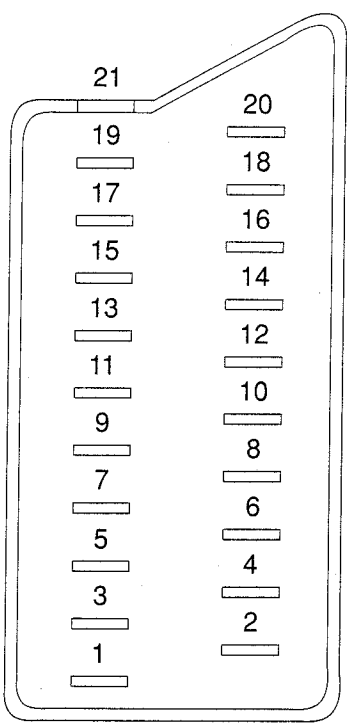
The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA** to **BS 1362**, ie one that carries the ASTA mark.
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR YOUR SOCKET OUTLETS IN YOUR HOME.
IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED.
THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET OUTLET.
When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with the screwdriver blade
and replace the fuse.

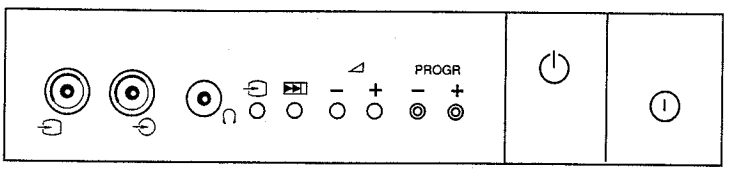
21 pin connector (1)





Pin No.	1	2	4	Signal	Signal Level
1	○	○	○	Audio output B (Right)	Standard level : 0.5V rms Output impedance : Less than 1k ohms*
2	○	○	○	Audio input B (Right)	Standard level : 0.5V rms Output impedance : More than 10k ohms*
3	○	○	○	Audio output A (Left)	Standard level : 0.5V rms Output impedance : Less than 1k ohm*
4	○	○	○	Ground (Audio)	
5	○	○	○	Ground (Blue)	
6	○	○	○	Audio input A (Left)	Standard level : 0.5V rms Output impedance : Less than 10k ohm*
7	○	●	●	Blue input	0.7 ± 3dB, 75 ohms, positive
8	○	○	○	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More10k ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (Green)	
10	○	○	○	Open	
11	○	●	●	Green	
12	○	○	○	Open	
13	○	○	○	Ground (Red)	
14	○	○	○	Ground (Blanking)	
15	○	—	—	Red input	0.7 ± 3dB, 75 ohms, positive
	—	○	○	(S signal) croma input	0.7 ± 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75 ohms
17	○	○	○	Ground (Video output)	
18	○	○	○	Ground (Video input)	
19	○	○	○	Video output	1V ± 3dB, 75ohms, positive sync : 0.3V (-3 + 10dB)
20	○	—	—	Video input	1V ± 3dB, 75ohms, positive sync : 0.3V (-3 + 10dB)
	—	○	○	Video input Y (S signal)	1V ± 3dB, 75ohms, positive sync : 0.3V (-3 + 10dB)
21	○	○	○	Common ground (plug, sheild)	

○ Connected ● Not Connected (Open) * at 20Hz - 20kHz



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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.

THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.

LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND, IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

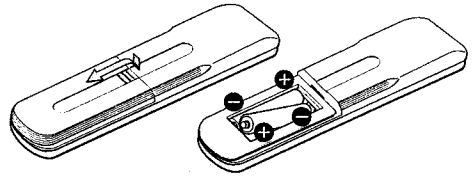
ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE PUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

Step 1

Inserting the Batteries into the Remote Commander



Step 2

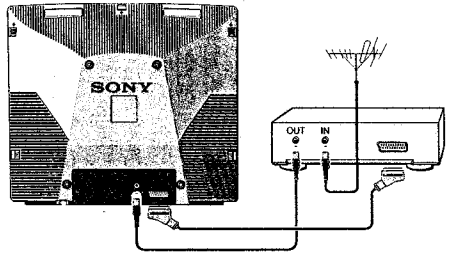
Connecting the Aerial

If you connect a VCR, skip to step 3.

Connect an external aerial to the socket ⅂ Y.

Step 3

Connecting a VCR



- It is recommended to tune in the VCR signal to programme number "0". For details, see "Presetting Channels Manually" on page 12.

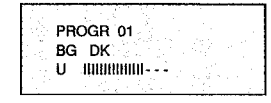
Step 4

Presetting Channels Automatically

TV searches for all available channels. If manual tuning is preferred see Menu option - Presetting Channels Manually.

1 Plug into mains.
Press power switch ⏻ X on TV set.

2 Press and hold ⏭ T on TV set for 2 seconds.
Auto tuning starts and screen shows.



Note • When Auto tuning stops the programme on position 1 is seen.

TV Operation

This section explains functions used whilst watching TV. Most operations are carried out using the Remote Commander.

To	Press
Switch on	⏻ X on TV
Switch off temporarily	⏻ K *TV is now in standby mode, ⏻ indicator W on TV lights.*
Switch on again	▢ C, PROGR +/- P V or any number button D
Switch off completely	⏻ X on TV *To save energy we recommend switching off completely when TV is not in use.*
Select programmes	PROGR +/- P V or number buttons D *For double digit numbers press -/-- E then the number e.g. For 23, press -/-- E then 2 and 3.*
Display the programme number	▷M *Press again to make programme number disappear.*
Adjust the volume	🔊+/- J U
Mute the sound	🔇 A *Press again to restore sound.*
View video input	⏎ L S *Press again to return to TV programme.*
View programmes in 16:9 mode	▭ F *Press again to return to 4:3 mode.* **Note** • ▭ F is to be used to optimise the viewing of 16:9 signals, which will be available in the future.

Viewing Teletext

Teletext is an information service broadcast by TV stations.

1 Select the channel which carries the teletext service you wish to receive.

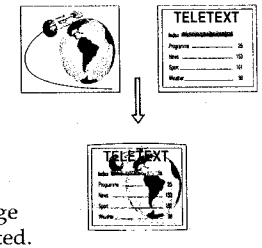
2 Press ≡B to switch on teletext.

3 Input three digits for the page number using the programme number buttons D or PROGR +/- P V.

4 Press ▢ C to switch off teletext.

Note • Teletext errors may occur if the broadcasting signals are weak.

Using Other Teletext Functions



Superimposing teletext on the TV

Press ≡B once in teletext mode or twice in TV mode to superimpose teletext on the TV screen.
Press ≡B again to cancel superimposing.

Freezing a teletext subpage

Press ≡L (HOLD) to freeze the subpage. Freezing the page prevents the information that is displayed from being updated.
Press ≡L to cancel HOLD and allow update to continue.

Revealing concealed information (eg: answers to a quiz)

Press ? M to reveal information.
Press again to conceal the information.

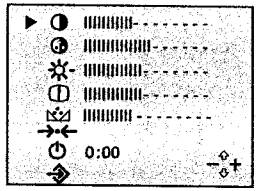
Using colour buttons to access pages

When the colour coded menu appears at the bottom of a page, press the colour button (red, green, blue or yellow) H G I O to access the corresponding page.

Note • A programme status message in a blue box may appear when you change programmes (depends on broadcasters).

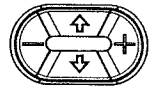
Use buttons on Remote Commander to control Menu screen.

MENU Ⓝ
Menu Screen
on/off



Green Ⓖ
scroll up

Red Ⓗ
decrease



Yellow Ⓞ
increase/confirm(OK)

Blue Ⓘ
scroll down

Adjusting the Picture

1 Press MENU Ⓝ.

2 Press green Ⓖ or blue Ⓘ button to select the item you wish to change.

Symbol	Item	- Effect	+
◑	Picture	Less	More
◕	Colour	Less	More
☼	Brightness	Darker	Brighter
◫	Sharpness	Softer	Sharper
◪	Hue	Reddish	Greenish

Note • Hue is available only when NTSC signal is input.

3 Press red Ⓗ or yellow Ⓞ button to change levels.

4 Press MENU Ⓝ to return to normal TV screen.

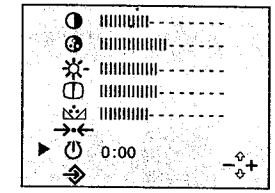
Note • To reset to factory preset picture levels, press green Ⓖ or blue Ⓘ button to select →•← and press yellow (OK) Ⓞ button.

Using the Sleep Timer

The TV may be set to switch to the standby mode automatically after a length of time chosen by you. You may set the time in 30 minutes steps up to 4 hours.

1 Press MENU Ⓝ.

2 Press green Ⓖ or blue Ⓘ button to select ⏻.



3 Press red Ⓗ or yellow Ⓞ button to set time delay.
0.00 (OFF) 0.30 1.00 1.30 .... 4.00

4 Press MENU Ⓝ to return to normal TV screen.
When watching TV, press ⊡Ⓜ to display time remaining.

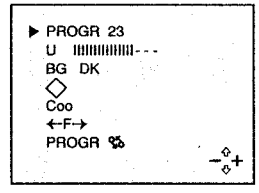
'Presetting Channels Manually

Up to 60 programme positions are available for presetting channels.

1 Press MENU ⓝ.

2 Press green Ⓖ or blue Ⓘ button to select ◈ and press yellow (OK) Ⓞ button.

3 Select programme number using PROGR +/- Ⓟ Ⓥ or the number buttons Ⓓ.



4 Press green Ⓖ or blue Ⓘ button to select TV system (BG or DK) if necessary and press red Ⓗ or yellow Ⓞ button to change TV system.

5 Press green Ⓖ or blue Ⓘ button to select tuning bar (|||||||····) and press red Ⓗ or yellow Ⓞ button to start channel search. When a channel is found the tuning bar stops moving and you see the picture.

6 If you want to store, press green Ⓖ or blue Ⓘ button to select ◇ and press yellow (OK) Ⓞ button. If you do not want to store, press red Ⓗ or yellow Ⓞ button to continue search.

7 Repeat steps 3 to 6 for all other channels.

8 Press MENU Ⓝ to return to normal TV screen.

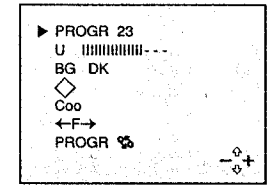
Skipping Programme Positions

You can skip unused programme positions when selecting channels with the PROGR +/- Ⓟ Ⓥ buttons. You can still select them, however, using the number buttons Ⓓ.

1 Press MENU Ⓝ.

2 Press green Ⓖ or blue Ⓘ button to select ◈ and press yellow Ⓞ button.

3 Select programme number you want to skip using PROGR +/- Ⓟ Ⓥ button or number buttons Ⓓ.



4 Press green Ⓖ or blue Ⓘ button to select Coo and press yellow (OK) Ⓞ button.

5 Press green Ⓖ or blue Ⓘ button to select ◇ and press yellow (OK) Ⓞ button to store.

6 Repeat steps 3 to 5 for other unused programme positions.

7 Press MENU Ⓝ to return to normal TV screen.

Note • To restore a skipped programme number, refer to 'Presetting Channels Manually'.

Fine-Tuning Channels

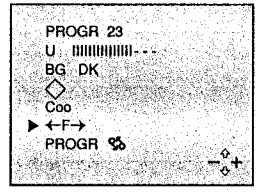
You can fine tune a stored channel if necessary.

1 Select the channel you wish to fine tune.

2 Press MENU Ⓝ.

3 Press green Ⓖ or blue Ⓘ button to select ⇨ and press yellow (OK) Ⓞ button.

4 Press green Ⓖ or blue Ⓘ button to select ←F→ and use red Ⓗ or yellow Ⓞ button to adjust tuning.



5 Press green Ⓖ or blue Ⓘ button to select ◇ and press yellow (OK) Ⓞ button to store.

6 Press MENU Ⓝ to return to normal TV screen.

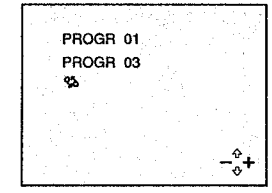
Exchanging Programme Positions

After tuning you may wish to rearrange the programme positions.

1 Press MENU Ⓝ.

2 Press green Ⓖ or blue Ⓘ button to select ⇨ and press yellow (OK) Ⓞ button.

3 Press green Ⓖ or blue Ⓘ button to select PROGR and press yellow (OK) Ⓞ button.



4 Press red Ⓗ or yellow Ⓞ button to select the first programme position.

5 Press the blue Ⓘ button.

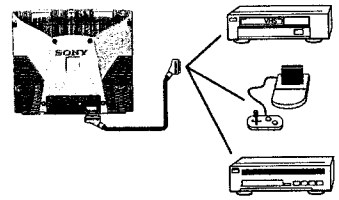
6 Press the red Ⓗ or yellow Ⓞ button to select the second programme position.

7 Press blue Ⓘ button to select and press yellow (OK) Ⓞ button to exchange.

8 Repeat steps 4 to 7 for other programme positions.

9 Press MENU Ⓝ to return to normal TV screen.

Using the Connectors



Your TV has one 21-pin connector Z on the rear of the set and two connectors (phono jacks : video, audio) Q on the front of the set. You can connect optional audio or video equipment to these connectors, such as a VCR, video games or a video disc player.

1 Press L S to view the video input signal.

2 Press L S or C to return to normal TV screen.

Note • To avoid picture distortion, do not connect equipment to the 21-pin connector and the front connectors at the same time.

Connecting Headphones

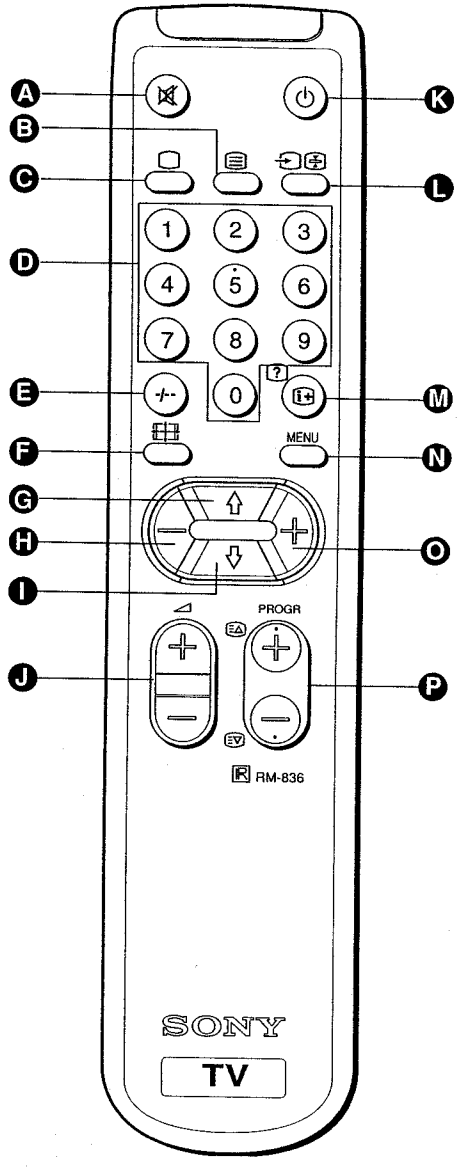
Plug in the headphones to the R socket on the front of the TV set to mute the sound from the speaker.

Troubleshooting

Here are some simple solutions to the problems which affect the picture and sound.

Problem	Solution
No picture, screen is dark, no sound	• Plug the TV in. • Press X on the TV. • Press C or the programme number D on the remote commander if indicator W is on. • Check the aerial connection. • Check that the video source is on. • Turn the TV off for 3 or 4 seconds and then turn it on again using X.
Poor or no picture (screen is dark, sound is good)	• Press MENU N and adjust brightness picture and colour levels.
Good picture, no sound	• Adjust the volume +/– J U. • Disconnect any headphones. • Press A if is displayed on the screen. • Press MENU N and select appropriate TV system.
No colour on colour programmes	• Press MENU N and adjust colour balance. • Press MENU N and reset to factory settings.
Distorted picture when you change programmes or select teletext	• Turn off the equipment connected to the 21-pin connector Z when this equipment is not in use.
Remote commander does not function	• Replace the batteries.

• If you continue to have these problems, have your TV serviced by qualified personnel.
• NEVER open the casing yourself.


A
B
C
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G
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I
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M
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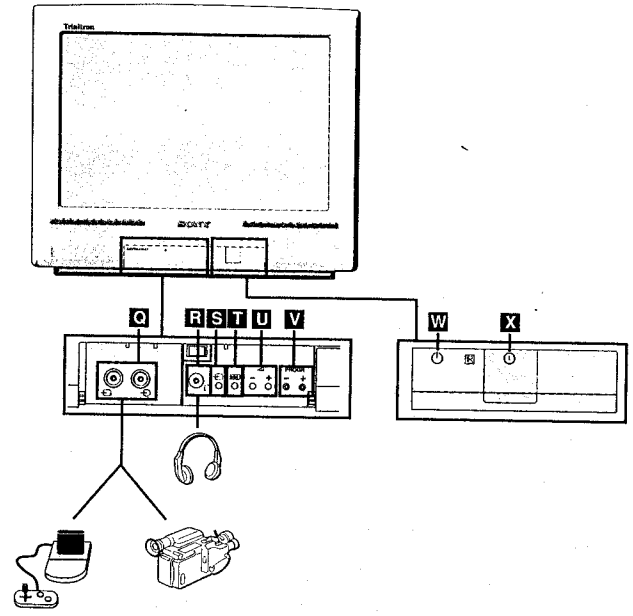
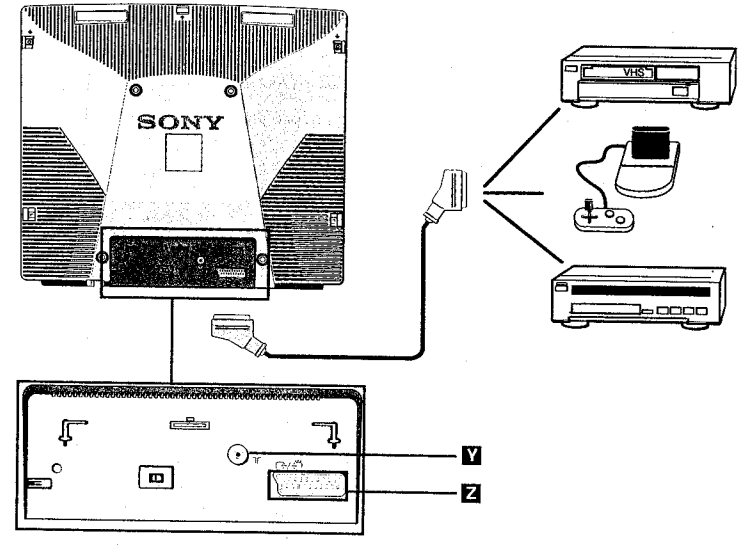
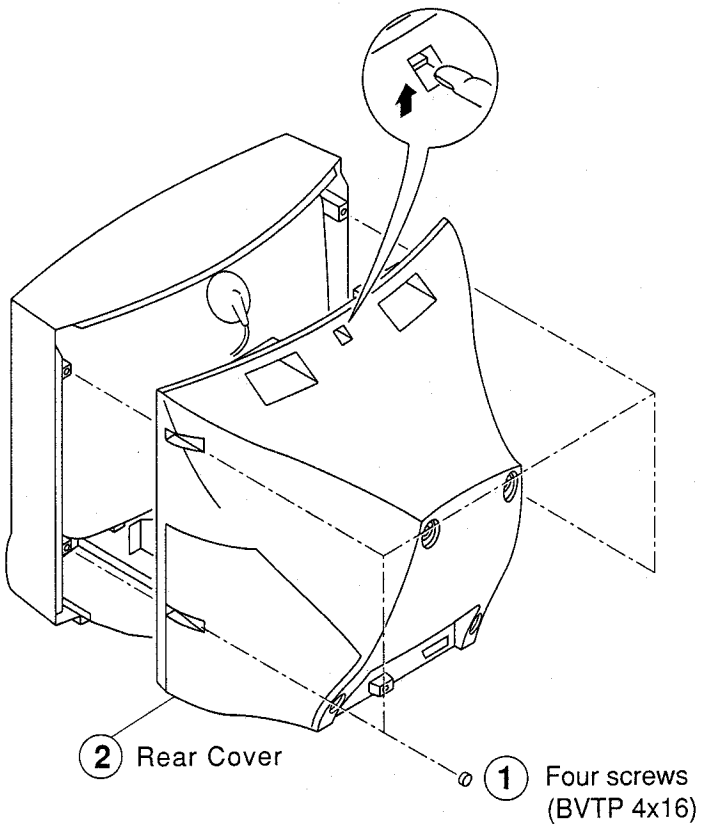
MENU
PROGR
RM-836
SONY
TV


Q
R
S
T
U
V
W
X

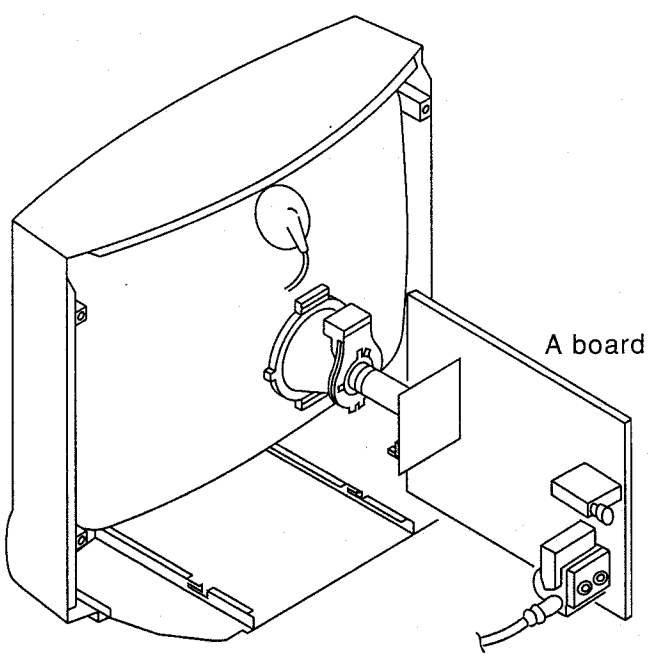

SONY
VHS
Y
Z

SECTION 2
DISASSEMBLY

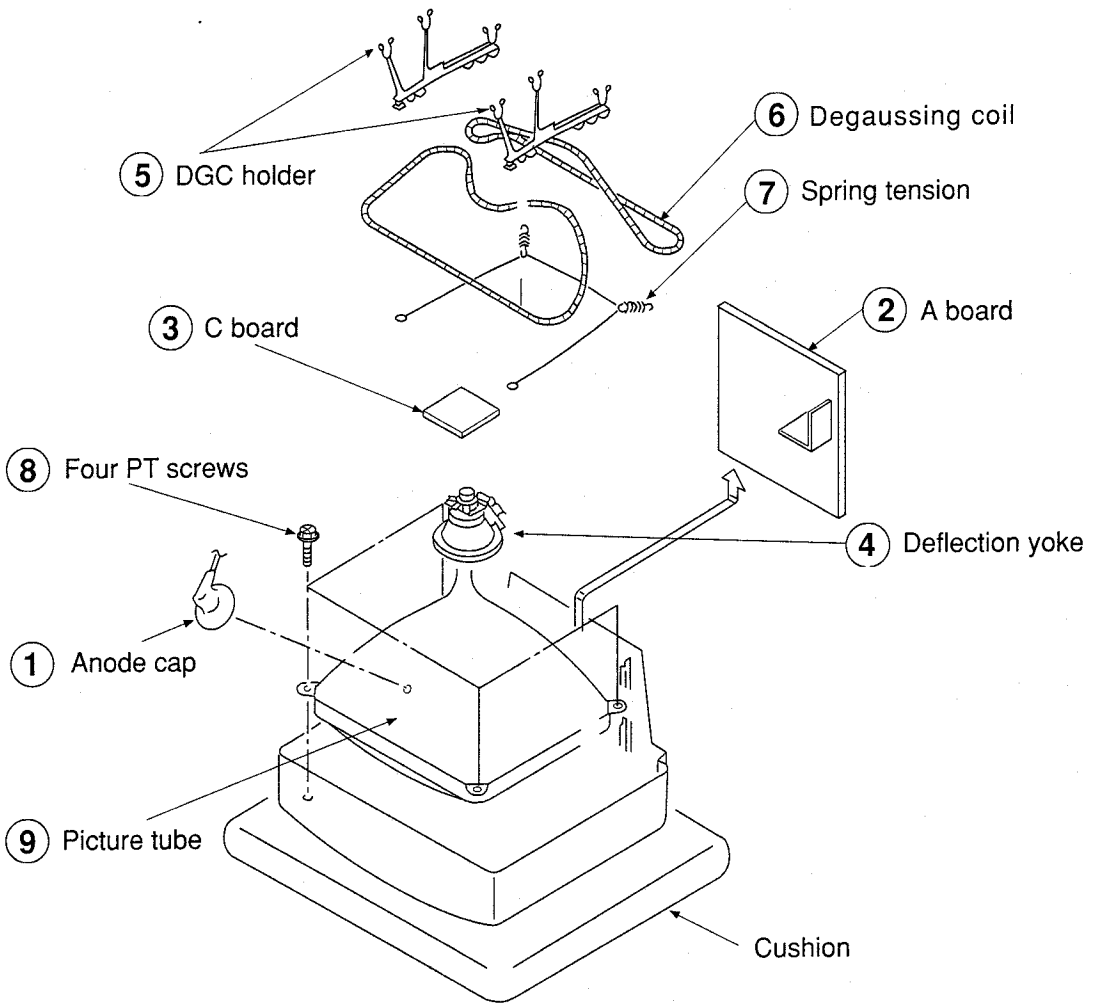
2-1. REAR COVER REMOVAL



2-2. SERVICE POSITION



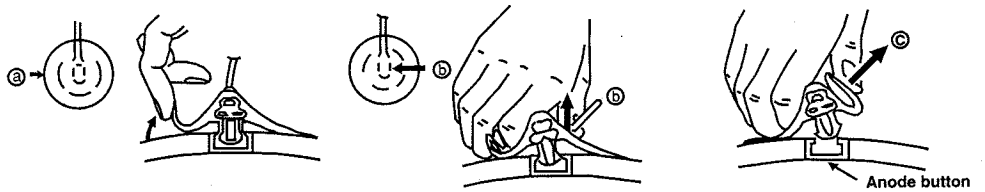
2-3. PICTURE TUBE REMOVAL



• REMOVAL OF ANODE-CAP

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

* REMOVING PROCEDURES.



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ

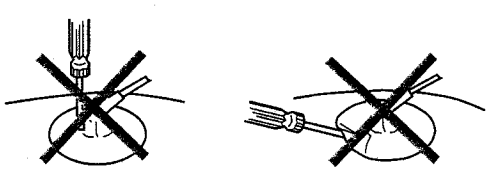
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ

• HOW TO HANDLE AN ANODE-CAP

① Don't damage the surface of anode-cap with sharp shaped material !

② Don't press the rubber hardly not to hurt inside of anode-caps !
A metal fitting called as shatter-hook terminal is built into the rubber.

③ Don't turn the foot of rubber over hardly !
The shatter-hook terminal will stick out or damage the rubber.



SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with the rated power supply voltage, unless otherwise noted.

The Contrast and Brightness controls should be set as follows unless otherwise noted:

◑ CONTRAST control 80%
(or Normal by commander)

☼ BRIGHTNESS control 50%

Perform the adjustments in the following order:
1. Beam Landing
2. Convergence
3. Screen (G2), Drive, White Balance, Sub Colour and Sub Brightness.
4. Focus

Note: Test Equipment Required.
1. Colour bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

Preparation:
- In order to reduce the influence of external magnetic forces on the picture tube, face the TV set in an easterly or westerly direction.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser.

3-1. BEAM LANDING

Demagnetize with a degausser.
1. Input an all white raster signal from the pattern generator.
   CONTRAST, BRIGHTNESS } normal
2. Switch the raster signal of the pattern generator to Red.
3. Move the deflection yoke backward, and adjust with the purity control so that Red is at the centre and the Blue and Green are evenly spaced at the sides. see (Fig. 3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes Red. (Fig. 3-1)
5. Switch the raster signal to Blue and then Green to confirm the condition.
6. When the position of the deflection yoke has been determined, tighten it with the deflection yoke mounting screw.
7. When the landing at the corners is not correct, adjust by using disk magnets. (Fig. 3-4)

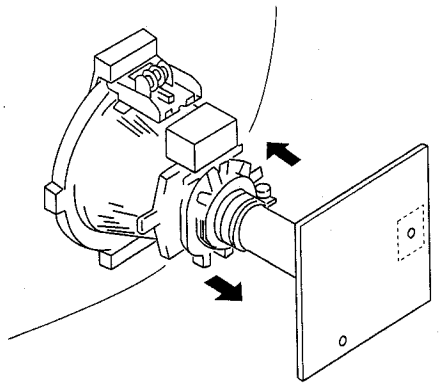


Fig. 3-1

Fig. 3-2

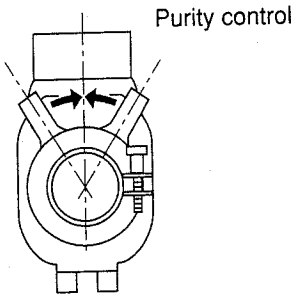


Fig. 3-3

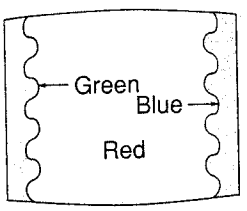
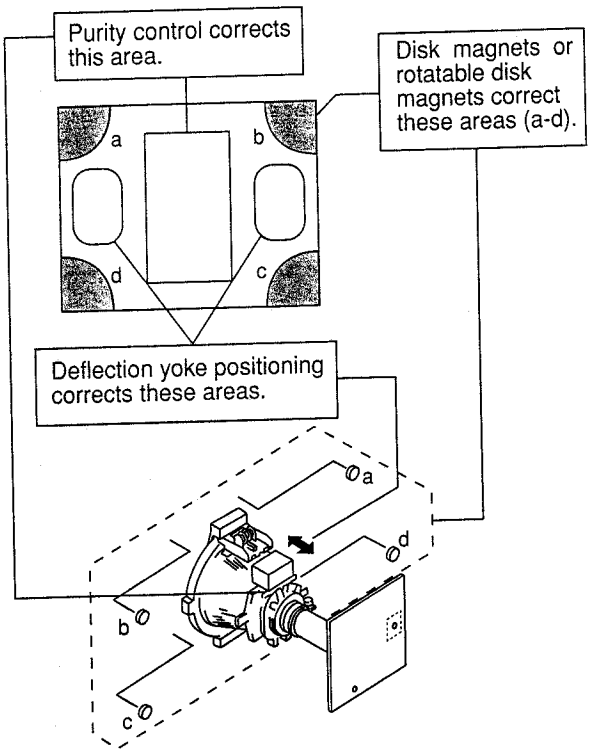


Fig. 3-4

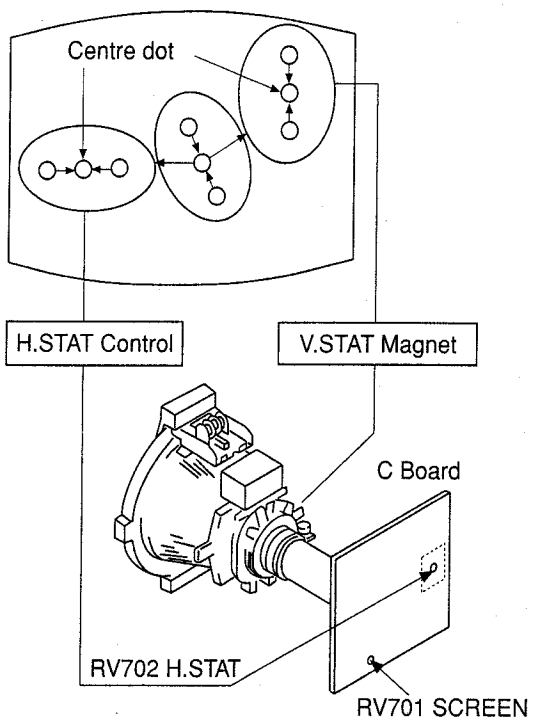


3-2. CONVERGENCE

Preparation:

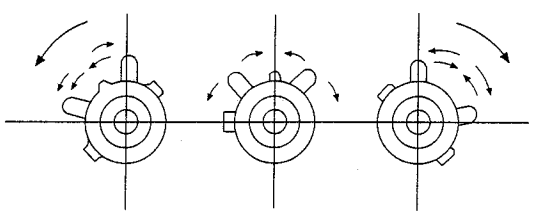
- Before starting, perform FOCUS, H.SIZE, and V.SIZE adjustments.
- Set the BRIGHTNESS control to minimum.
- Input a dot pattern from the pattern generator.

(1) Horizontal and Vertical Static Convergence

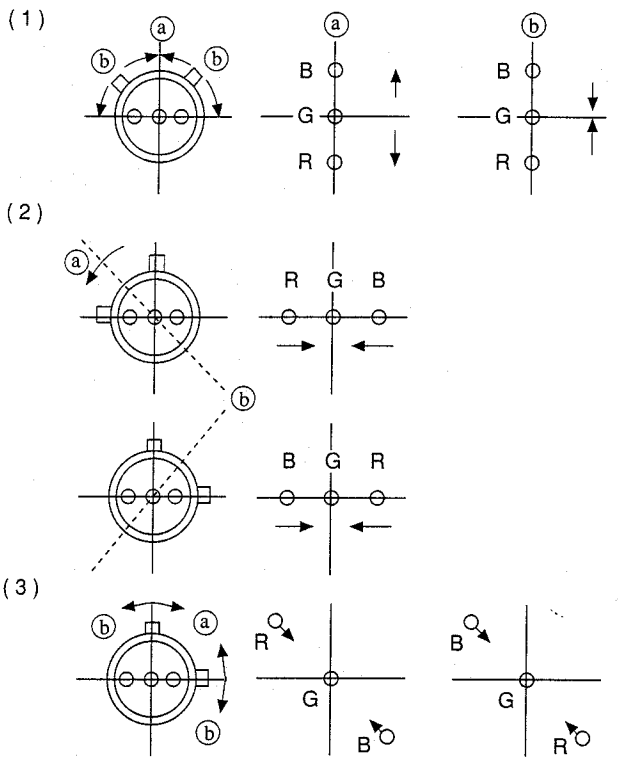


1. Adjust the H.STAT control to converge the Red, Green and Blue dots at the centre of the screen. (Horizontal movement)
2. Adjust the V.STAT magnet to converge the Red, Green and Blue dots at the centre of the screen. (Vertical movement)

- If the horizontal dots cannot coincide with variable range of the H.STAT convergence, adjust together with the V.STAT convergence while tracking.
  (Adjust the convergence by tilting the V.STAT convergence or by opening or closing the V.STAT convergence.)



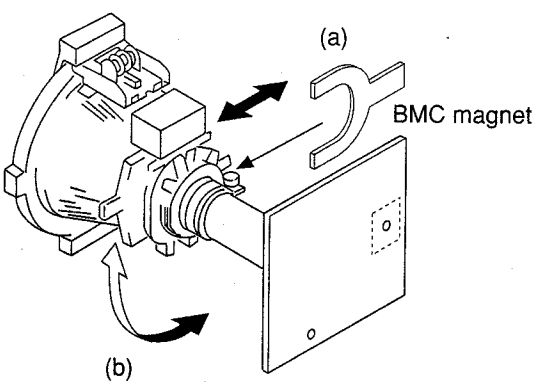
3. When the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the Red, Green and Blue dots move as shown below.



If the Red and Blue dots do not converge with the Green dots, perform the following steps.

1. Move the BMC magnet (a) to correct for insufficient H.static convergence.
2. Rotate the BMC magnet (b) to correct for insufficient V.static convergence.

In either case, repeat the Beam Landing Adjustment.

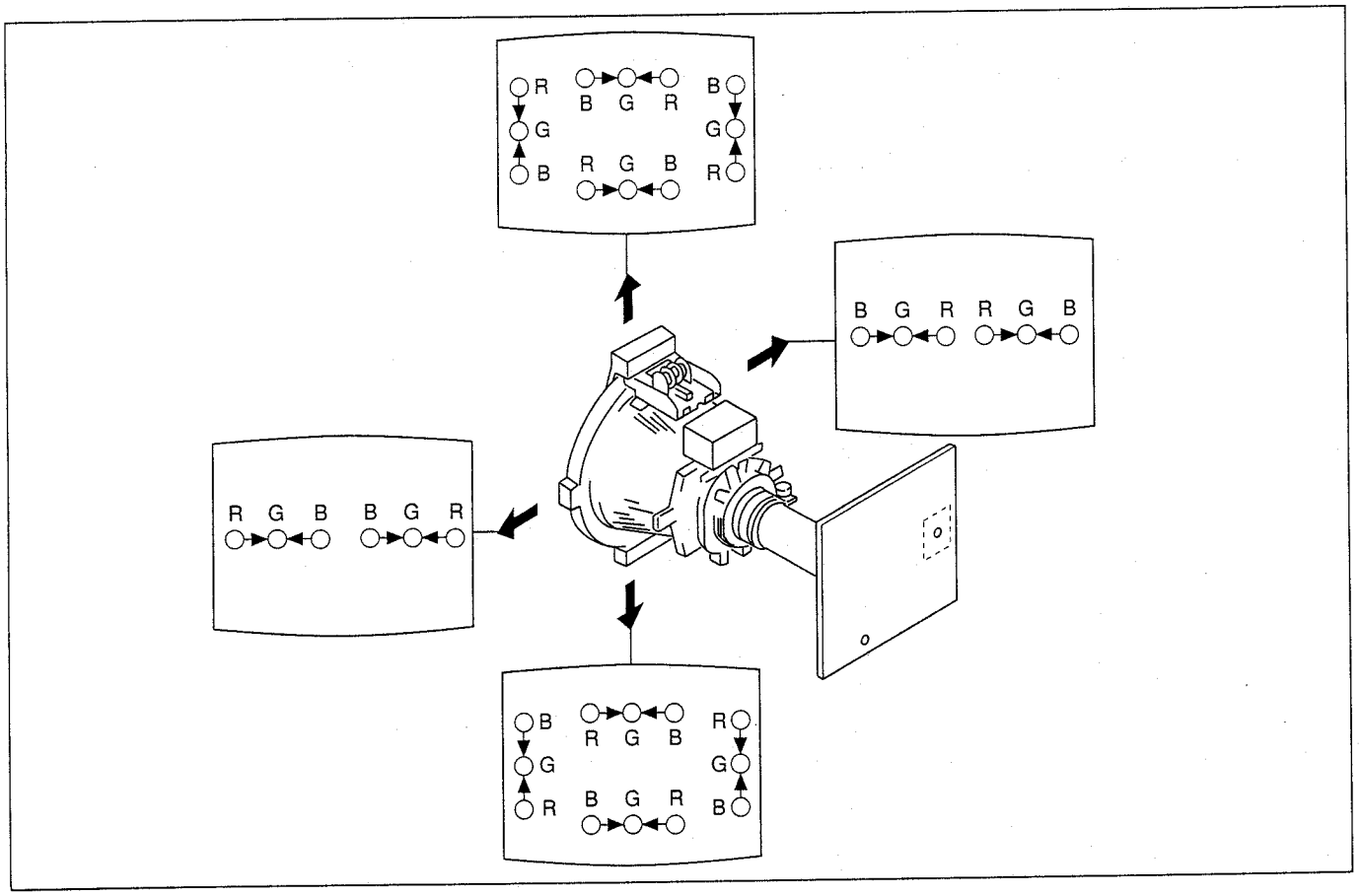


(2) Dynamic Convergence Adjustment

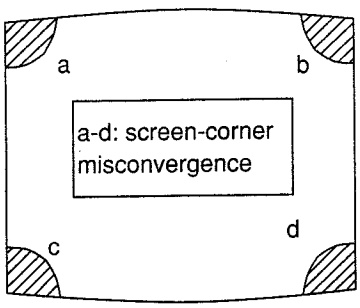
Preparation:

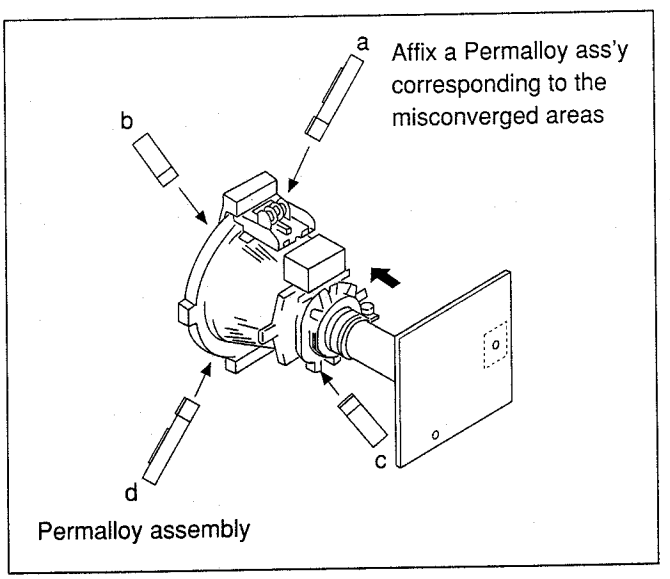
- Before starting, perform the Horizontal and Vertical static convergence adjustment.

1. Slightly loosen the deflection yoke screw.
2. Remove the deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

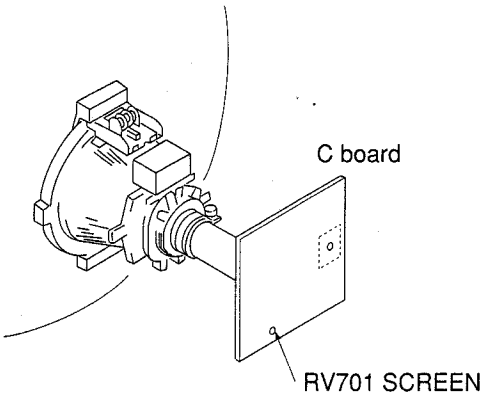


(3) Screen-corner Convergence.





3-3. SCREEN (G2), DRIVE, WHITE BALANCE, SUB COLOUR and SUB BRIGHTNESS.

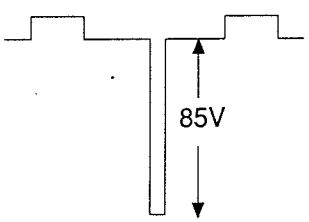


Screen (G2) setting

1. Input a 0 IRE (Black Level) signal from the pattern generator.
2. Enter into the Service Mode "Test""Test" and 38.
3. Adjust RV701 until the Down arrow is displayed.
4. Adjust RV701 until the Down arrow just disappears.
5. Press the TV Button on the Remote Commander to store the data.

Drive Level

1. Input a Video signal containing a small area of 100% white on a black background.
2. Connect an oscilloscope to Pin ⑩ of J701 (R OUT) on the C Board.
3. Set the Picture to maximum using "Test""Test" and 01.
4. Enter into the Service mode (Adjust Menu).
5. Using the Blue and Green buttons select "RED HWB".
6. Using the Red and Yellow buttons on the Remote Commander adjust until the oscilloscope waveform has an amplitude of 85V.

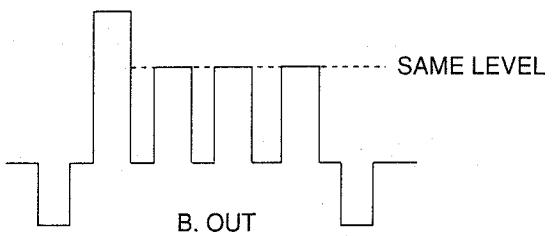


White Balance Adjustment

1. Input an all white pattern from the pattern generator.
2. Adjust the Colour and Brightness controls to the standard level.
3. Enter into the Service Mode.
4. Adjust the Green HWB and Blue HWB so that the White Balance becomes optimum.

Sub Colour Adjustment

1. Input a PAL colour bar pattern from the pattern generator.
2. Connect an oscilloscope to Pin ⑧ of J701 (B OUT) on the C Board.
3. Enter into the Service Mode "Test""Test" and 22.
4. Using the Red and Yellow buttons on the Remote Commander adjust until the oscilloscope waveform becomes as follows :



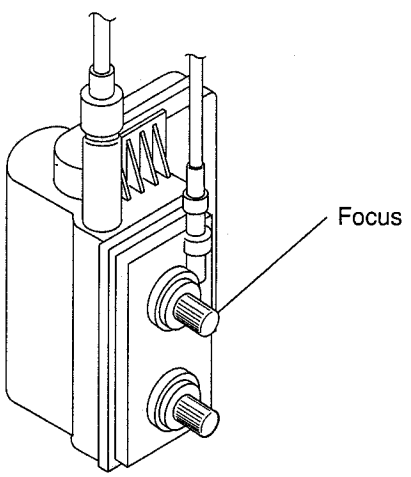
Note : If the TV is able to receive PAL and SECAM transmissions, repeat the above procedure using a Secam colour bar signal.

Sub Brightness Adjustment

1. Input a Philips pattern from the pattern generator.
2. Enter into the Service Mode "Test""Test" and 23.
3. Using the Red and Yellow buttons on the Remote Commander adjust until the 0 IRE of the grey scale and the cut off are only slightly visible on the screen.

3-4. FOCUS

1. Receive a television broadcast signal.
2. Normalize the picture setting.
3. Adjust the focus control on the flyback transformer for the best focus at the centre of the screen.
   Bring only the centre area of the screen into focus, the magenta-ring appears on the screen. In this case, adjust the focus to optimize the screen uniformly.



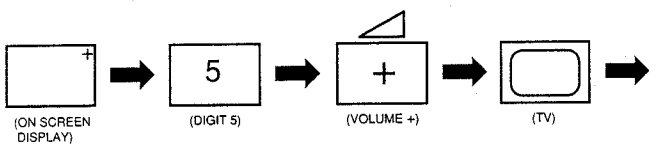
SECTION 4
CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied Remote Control Commander RM-836.

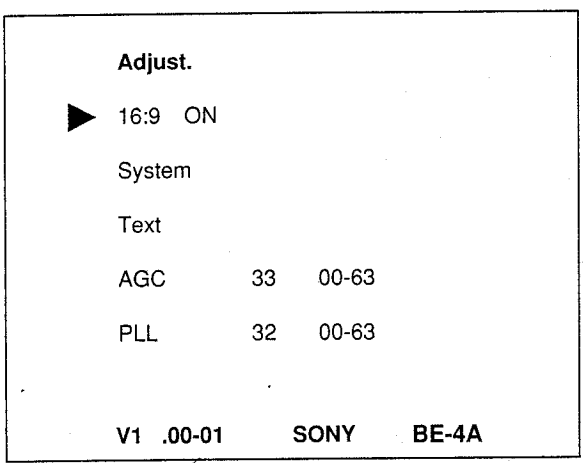
HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power of the set and enter into stand-by mode.
2. Press the following sequence of buttons on the Remote Control Commander.



"TT-- " will appear in the top right corner of the screen Other status information will also be displayed.

3. Press the MENU button on the Remote Commander to obtain the menu on the screen.



4. Press the Blue (Next) or Green (previous) buttons to select the adjustment item from the table.
5. Press the Yellow (+) or Red (-) buttons to change the data as required.
6. Turn off the power to quit the service mode when adjustments are completed.

Range of adjustments available from the on screen menu system.

Adjustment	Set	Range
16:9 Off	Select	ON/OFF
System	Select	BG-L, BG-DK UK, Eire, BG
Text	Select	EAST/WEST
AGC	Adj.	00 - 63
PLL	Adj.	00 - 63
B&W Delay	Adj.	00 - 63
Ver Size	Adj.	00 - 63
Ver, Breath	00	00 - 63
Par, Ampl	00	00 - 63
Par, Tilt	32	00 - 63
V, Linear	Adj.	00 - 63
Corn, corr	00	00 - 63
V, Cen or EW	Adj.	00 - 63
V, Position	42	00 - 63
H, Centre	Adj.	00 - 63
Blue HWB	Adj.	00 - 63
Green HWB	Adj.	00 - 63
Red HWB	Adj.	00 - 63

4-2. TEST MODE 2:

TT -- Mode is available by pressing the Test button twice, O.S.D 'TT --' appears. The functions described below are available by pressing two digits. To release the 'TT --' mode, press 0 twice, press 'TEST' , press 'TV' or switch the TV into Stand-by mode.

00	Switch 'TT--' Mode off.
01	Set picture level to maximum.
02	Set picture level to minimum.
03	Set volume to 35%.
04	Set volume to 50%.
05	Set volume to 65%.
06	Set volume to 80%.
07	Ageing condition (picture max., brightness max.).
08	Shipping condition (Analog values are RESET to factory setting, Prog 1 is selected, TT--mode switched off, Vol = 35%).
09	Dummy.
10	No function.
11	Dummy
12	Text Picture Level Offset (Enable/Disable)
13	Select Odd / Even field for Non-interlaced teletext.
14	Select Interlaced / Non-interlaced teletext display.
15	Read factory setting from ROM to NVM - Reads Volume, Brightness, Picture, Hue, Sharpness and Colour values from ROM to the actual used values (Last Power Memory).
16	No function
17	Enable / Disable Sharpness Operation.
18	Enable / Disable Teletext Operation.
19	Enable / Disable NTSC Operation.
20	No function.
21	Sub Picture.
22	Sub Colour (Pal / Secam Different Stores)
23	Sub Brightness.
24	Destination System BG/L.

25	Destination Systems BG/L.
26	Destination Systems I.
27	Destination System I/I'.
28	Destination BG only.
29	Dummy.
30	No function.
31-32	Dummy.
33	Auto AGC Adjust.
34	Auto PLL Adjust.
35-37	Dummy.
38	Enter G2 adjustment mode.
39	Dummy.
40	No function.
41	Re-initialise NVM.
42	Dummy.
43	Re-initialise Geometry settings.
44-47	Dummy
48	Set NVM testbyte to 44h in NVM.
49	Erase NVM testbyte
50	No function.

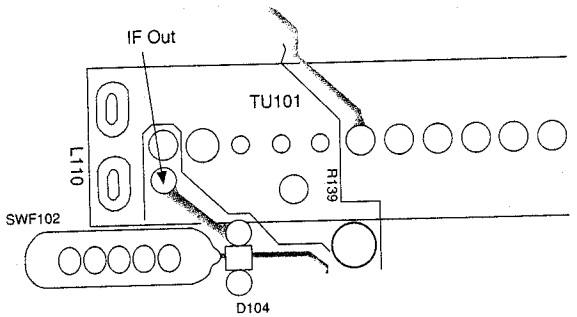
Note : For Test Modes 41 - 50, it is necessary to ensure that the TV is set to Prog 59.

IF ADJUSTMENT (AUTOMATIC)

1. Input a 38.9 MHz 100dBμ CW signal at the IF Out injection point.
2. Enter into service mode and press 34.
3. Connect a digital voltmeter to IC101 pin (23).
4. Check AFT 2.5V ±0.3V dc.
5. Press '00' on the Remote Commander.

SYSTEM L ADJUSTMENT (French Models)

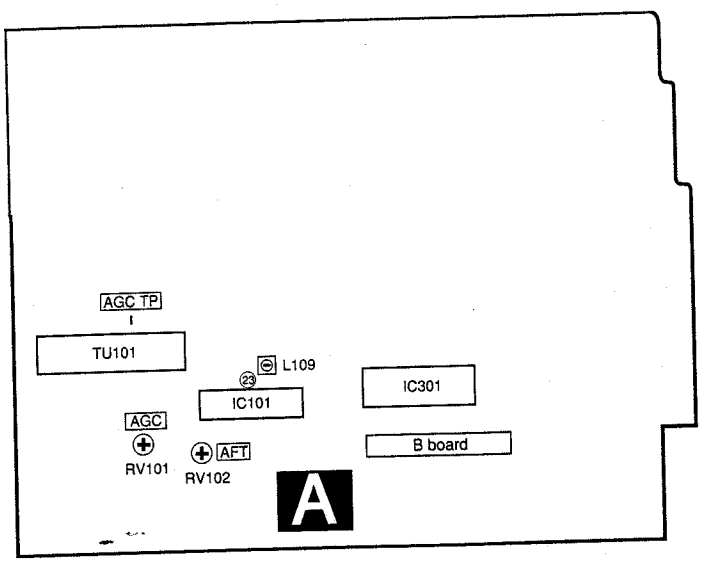
1. Input a 33.9MHz 100dBμ CW signal at the IF Out injection point.
2. From the On Screen Menu set System to L band 1.
3. Connect a digital voltmeter to IC101 pin (23).
4. Adjust RV102 AFT for 2.5V ±0.3V dc.



- A Board Print Side -

AGC ADJUSTMENT

1. Receive an off-air signal.
2. Enter into the Service adjust menu and select AGC.
3. Adjust the data using the Red and Yellow buttons on the Remote Commander so that there is no snow or cross - modulation visible on the screen.
4. Change the receiving off-air channel, and confirm the above status.



- A Board Component Side -

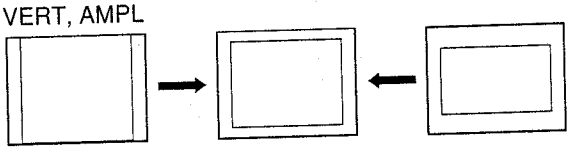
DEFLECTION SYSTEM ADJUSTMENT

1. Enter into the service mode.
2. Using the Blue or Green buttons select the Adjust item.
3. Press the Yellow button to enter the adjustment submenu.
4. Select and adjust each item in order to obtain the optimum image.

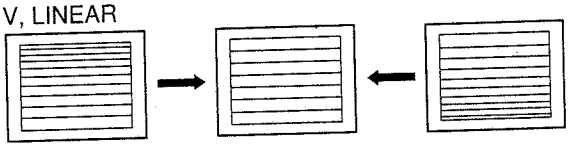
See Note on page 22

Adjustment	Set	Range
VERT, AMPL	Adj.	00 - 63
VER, BREATH	00	00 - 63
PAR, AMPL	00	00 - 63
PAR, TILT	32	00 - 63
V, LINEAR	Adj.	00 - 63
CORN, CORR	Adj.	00 - 63
V, CENTRE	Adj.	00 - 63
V, POSITION	42	00 - 63
H, CENTRE	Adj.	00 - 63

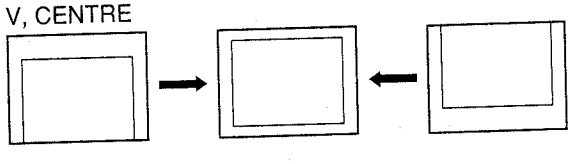
VERT, AMPL



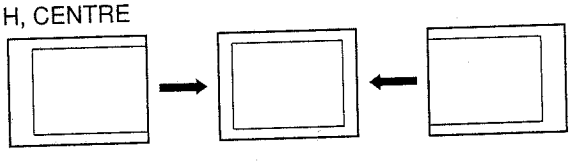
V, LINEAR



V, CENTRE



H, CENTRE



Fit the link as required to obtain the correct horizontal picture size.

4-3. BE-4A SELF DIAGNOSTIC SOFTWARE

The identification of errors within the BE-4A chassis is triggered in 1 of 2 ways :- 1: Bus busy or 2: Device failure to respond to I^2C. In the event of one of these situations arising the software will first try to release the Bus if busy (Failure to do so will report with a continuous flashing LED) and then communicate with each relevant device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED by a Series of flashes which must be counted (See Table 1), Non fatal errors are reported with this method.

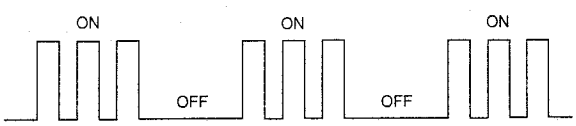
If a fatal error is found, the set will simply stay in whichever state it was when the error occurred, but if a non fatal error occurs the set will try to continue to operate.

Table 1

No of Flashes	Meaning
2	IC301 not acknowledging I^2C transmission, NVM OK.
3	IC301 FAULT (Not OK) - flags
4	IC301 - No H Flyback
5	IC301 - Stack Overflow.
6	Overvoltage / Overcurrent Protection (Pin 52) high.
7	IC002 not acknowledging I^2C transmission, IC301 OK.
8	IC002 and IC301 - No I^2C acknowledgment.
9	General I^2C Error (SDA or SCL being held low) (IC301, IC001, IC002, CN001)

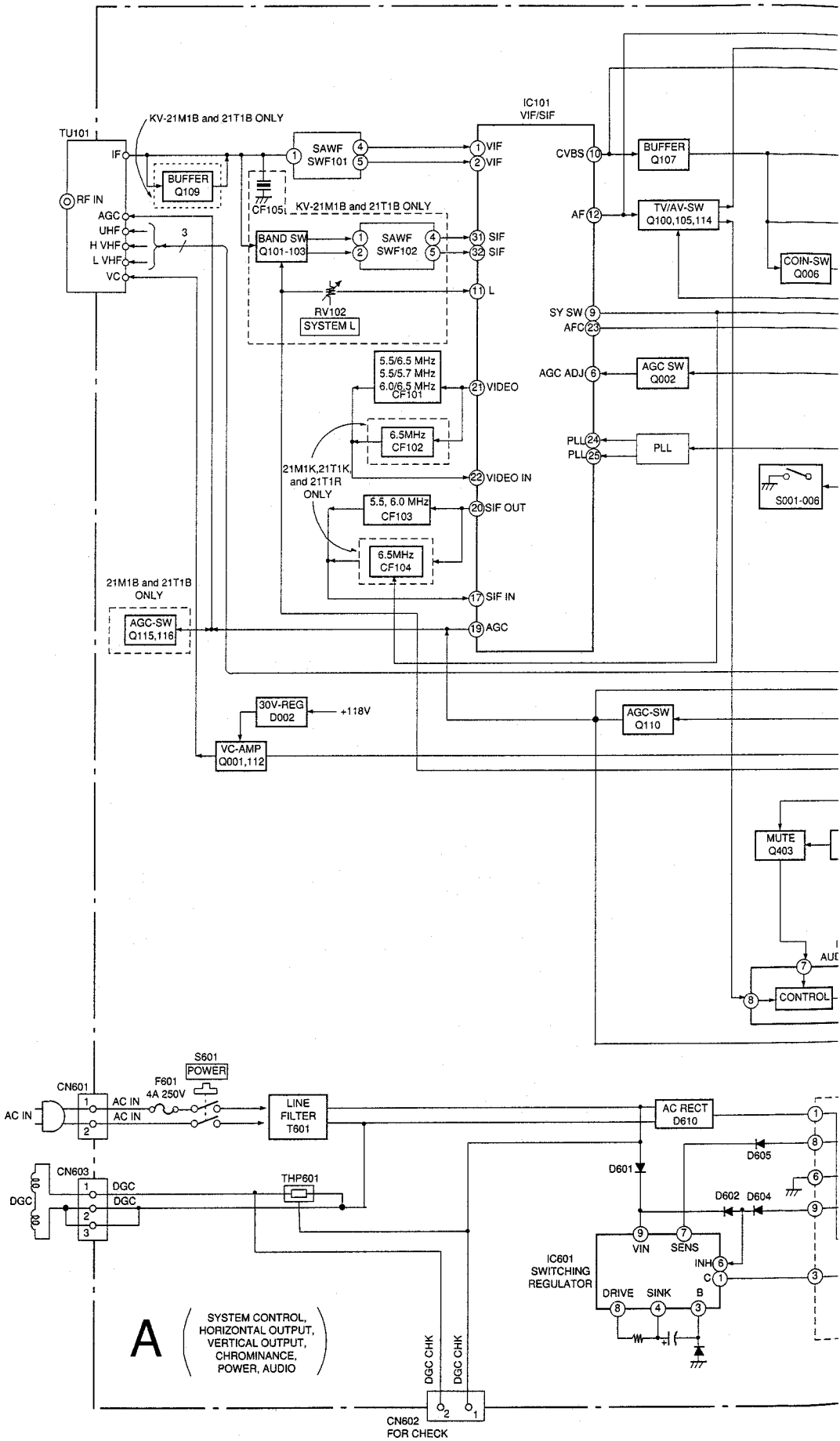
Flash Timing Example : e.g. error number 3

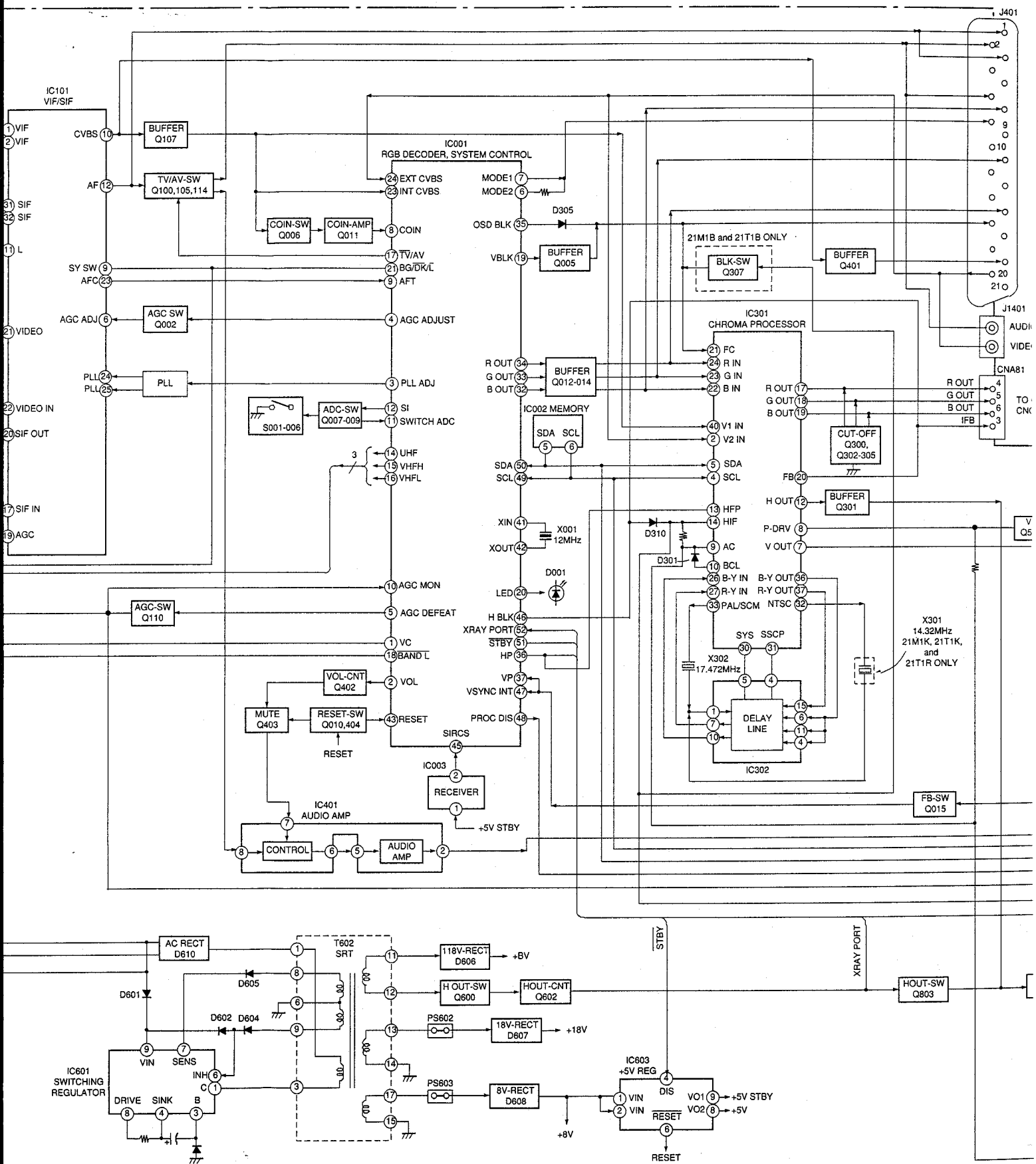
Stby LED

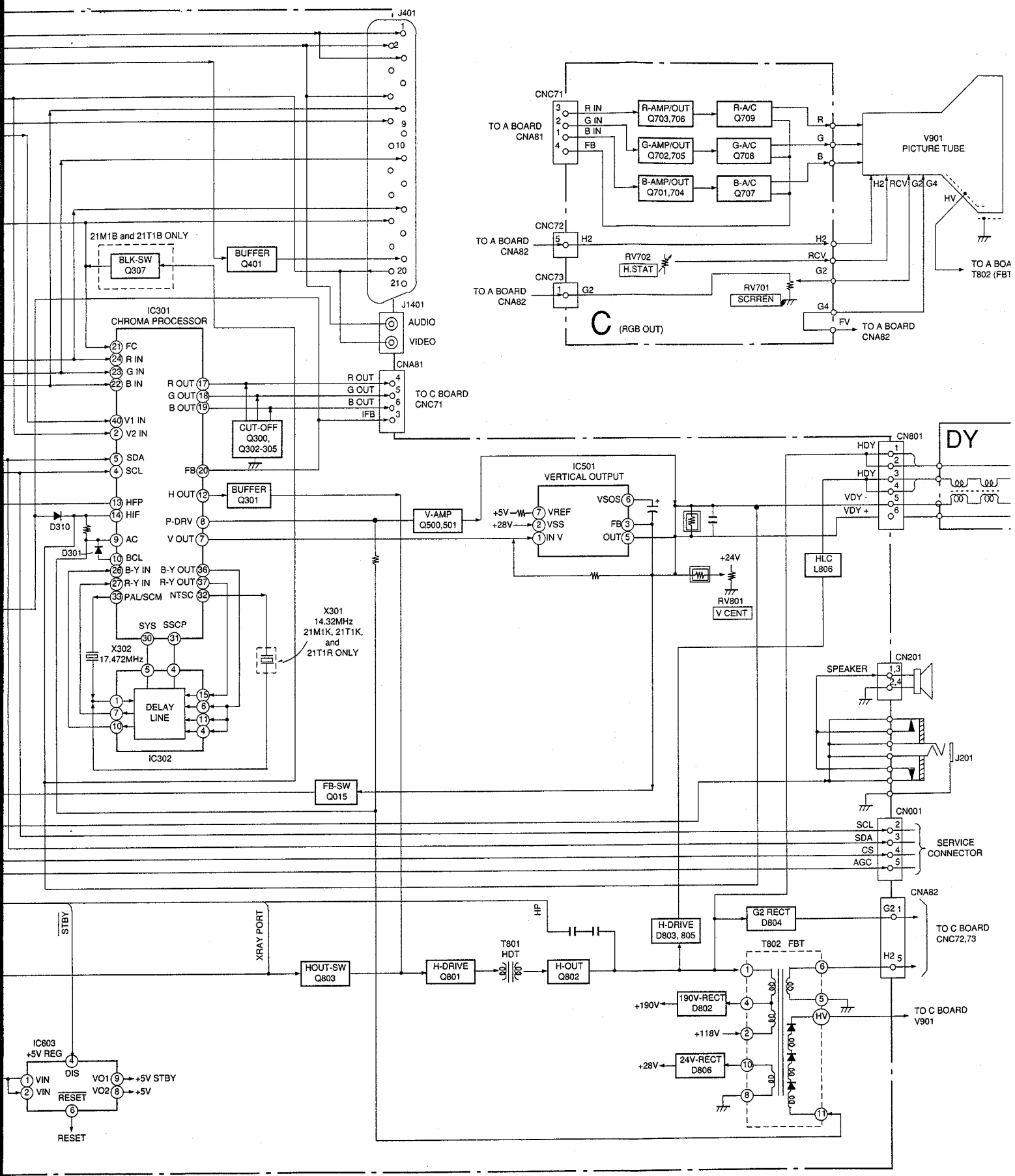


Note : Deflection System Adjustments should not be carried out whilst using an NTSC (60Hz) signal, or if the signal is unlocked.

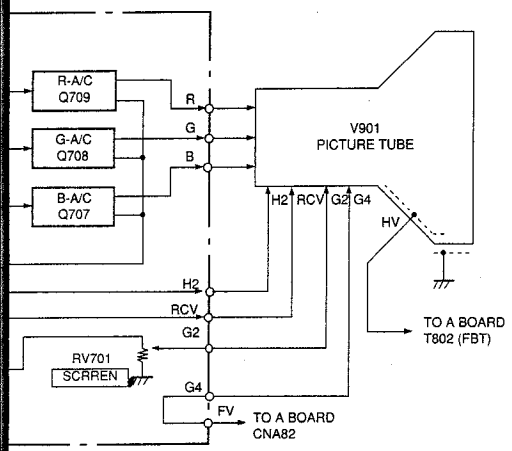
SECTION 5
DIAGRAMS

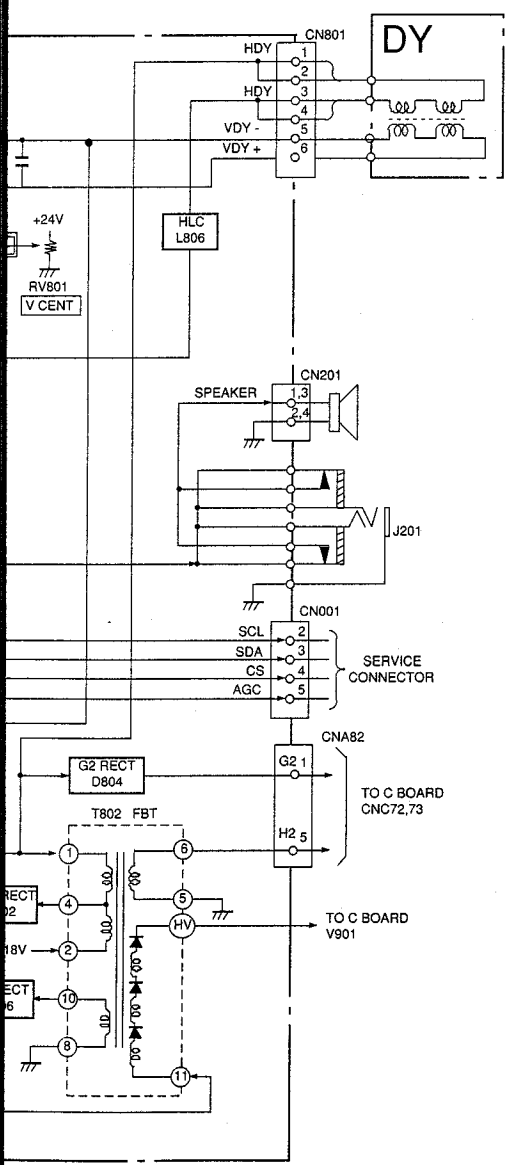



IC101
VIF/SIF
VIF
CVBS
AF
SIF
L
SY SW
AFC
VIDEO
AGC ADJ
PLL
VIDEO IN
SIF OUT
SIF IN
AGC
BUFFER Q107
TV/AV-SW Q100,105,114
COIN-SW Q006
COIN-AMP Q011
AGC SW Q002
PLL
S001-006
ADC-SW Q007-009
IC001
RGB DECODER, SYSTEM CONTROL
EXT CVBS
INT CVBS
COIN
TV/AV
BG/DK/L
AFT
AGC ADJUST
PLL ADJ
SI
SWITCH ADC
UHF
VHFH
VHFL
AGC MON
AGC DEFEAT
VC
BAND L
VOL
RESET
MODE1
MODE2
OSD BLK
VBLK
D305
BUFFER Q005
R OUT
G OUT
B OUT
BUFFER Q012-014
IC002 MEMORY
SDA SCL
XIN
XOUT
X001 12MHz
LED
D001
H BLK
XRAY PORT
STBY
HP
VP
VSYNC INT
PROC DIS
SIRCS
IC003
RECEIVER
+5V STBY
IC401
AUDIO AMP
CONTROL
AUDIO AMP
VOL-CNT Q402
MUTE Q403
RESET-SW Q010,404
RESET
21M1B and 21T1B ONLY
BLK-SW Q307
BUFFER Q401
IC301
CHROMA PROCESSOR
FC
R IN
G IN
B IN
V1 IN
V2 IN
SDA
SCL
HFP
HIF
AC
BCL
B-Y IN
R-Y IN
PAL/SCM
FB
H OUT
P-DRV
V OUT
B-Y OUT
R-Y OUT
NTSC
SYS
SSCP
X302
17.472MHz
DELAY LINE
IC302
CUT-OFF Q300, Q302-305
BUFFER Q301
X301
14.32MHz
21M1K, 21T1K, and 21T1R ONLY
D310
D301
FB-SW Q015
J401
J1401
CNA81
IFB
AC RECT D610
T602
SRT
D601
D605
D602
D604
118V-RECT D606
+8V
H OUT-SW Q600
HOUT-CNT Q602
PS602
18V-RECT D607
+18V
PS603
8V-RECT D608
+8V
IC601
SWITCHING REGULATOR
VIN
SENS
INH
C
DRIVE
SINK
B
IC603
+5V REG
DIS
VIN
RESET
VO1
VO2
+5V STBY
+5V
RESET
STBY
XRAY PORT
HOUT-SW Q803


J401
CNC71
TO A BOARD CNA81
R IN
G IN
B IN
FB
R-AMP/OUT Q703,706
G-AMP/OUT Q702,705
B-AMP/OUT Q701,704
R-A/C Q709
G-A/C Q708
B-A/C Q707
V901 PICTURE TUBE
H2 RCV G2 G4 HV
CNC72
TO A BOARD CNA82
H2
RV702 H.STAT
RCV
CNC73
G2
RV701 SCRREN
G4
FV
TO A BOARD CNA82
C (RGB OUT)
TO A BOA T802 (FBT
21M1B and 21T1B ONLY
BLK-SW Q307
BUFFER Q401
IC301 CHROMA PROCESSOR
J1401
AUDIO
VIDEO
CNA81
TO C BOARD CNC71
R OUT
G OUT
B OUT
IFB
CUT-OFF Q300, Q302-305
FC
R IN
G IN
B IN
V1 IN
V2 IN
SDA
SCL
HFP
HIF
AC
BCL
B-Y IN
R-Y IN
PAL/SCM
SYS
SSCP
X302 17.472MHz
DELAY LINE
IC302
X301 14.32MHz 21M1K, 21T1K, and 21T1R ONLY
FB
H OUT
P-DRV
V OUT
BUFFER Q301
D310
D301
B-Y OUT
R-Y OUT
NTSC
FB-SW Q015
V-AMP Q500,501
IC501 VERTICAL OUTPUT
+5V
+28V
VREF
VSS
IN V
VSOS
FB
OUT
+24V
RV801 V CENT
CN801
HDY
VDY -
VDY +
DY
HLC L806
CN201
SPEAKER
J201
CN001
SCL
SDA
CS
AGC
SERVICE CONNECTOR
CNA82
TO C BOARD CNC72,73
STBY
XRAY PORT
HOUT-SW Q803
H-DRIVE Q801
T801 HDT
H-OUT Q802
HP
H-DRIVE D803, 805
G2 RECT D804
T802 FBT
190V-RECT D802
+190V
+118V
24V-RECT D806
+28V
TO C BOARD V901
IC603 +5V REG
DIS
VIN
VIN
VO1
VO2
+5V STBY
+5V
RESET
RESET

5-2. CIRCUIT





5-3. SCHEMA

Note :

- All capacitor
  50WV or less
  tantalums.
- All resistors
  k = 1000 , M
- Indication of
  electrical pov

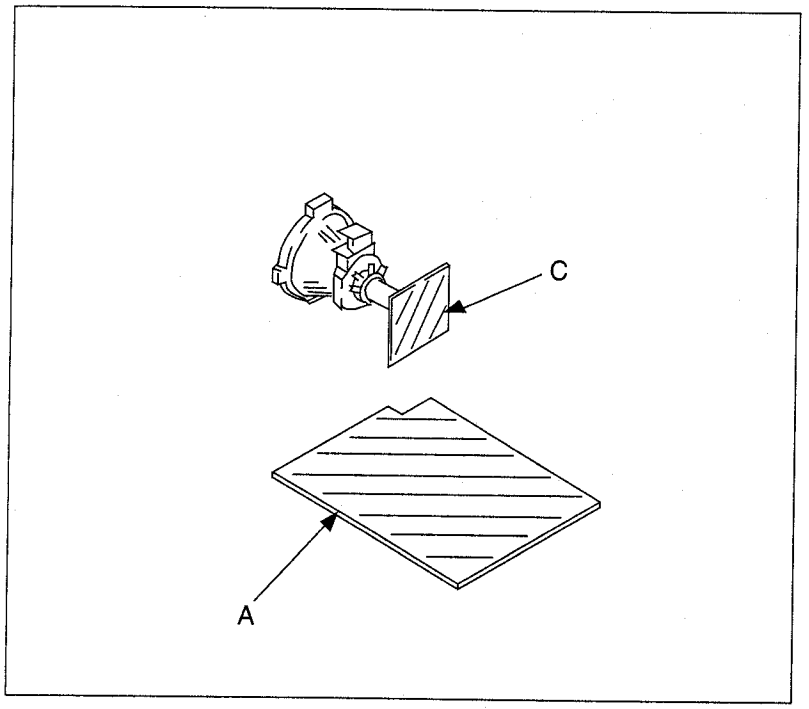
Pitch : 5 mm
Rating electr

- : no
- : int
- : pa
- All variable
  B, unless oth
- : ea
- : ea
- : no

Note : The comp
⚠ are
part numb

Note : Les comp
marque
Ne les re
numero s

5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
  k = 1000 , M = 1000K
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm
Rating electrical power ¼ W

- : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥ : earth - ground.
- ⏚ : earth - chassis.
- ⧺ : no mounted.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part number specified.

Note : Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTABLE RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a colour-bar signal input.
- Readings are taken with 10MΩ digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- ▬ : B+ bus.
- ▭▷ : signal path. (RF)

A BOARD

IC

IC001	I-4
IC002	G-4
IC003	C-1
IC101	G-10
IC301	G-5
IC302	H-7
IC401	E-3
IC501	D-9
IC601	A-5
IC603	D-3

TRANSISTOR

Q001	H-8
Q002	I-4
Q005	H-2
Q006	H-9
Q007	G-1
Q008	F-1
Q009	E-1
Q011	H-8
Q012	G-3
Q013	F-3
Q014	G-2
Q015	G-4
Q016	F-3
Q100	F-2
Q101	G-11
Q102	G-11
Q103	G-11
Q105	F-2
Q107	H-9
Q109	G-10
Q110	H-5
Q111	G-8
Q112	G-12
Q113	G-9
Q114	F-2
Q115	F-10
Q116	F-9
Q300	F-7
Q301	F-6
Q302	F-7
Q303	G-7
Q304	F-7
Q305	G-7
Q306	G-8
Q307	F-8
Q308	H-7
Q401	H-10
Q402	F-2
Q403	F-3
Q404	F-4
Q600	D-6
Q602	D-6
Q801	E-6
Q802	C-9
Q803	E-5
Q804	C-7
Q805	B-7

DIODE

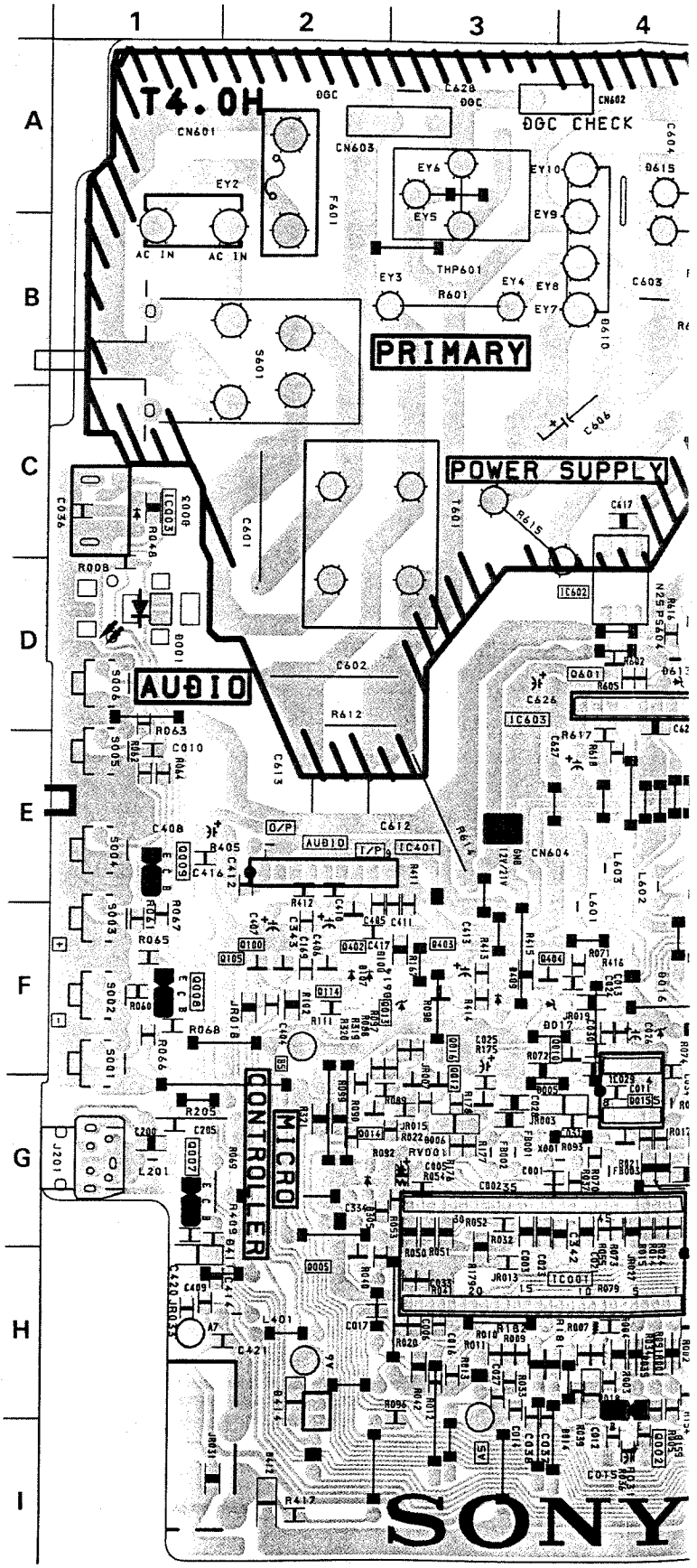
D001	D-1
D002	F-8
D003	C-1
D004	F-5
D005	G-4
D006	G-3
D014	I-4
D016	G-4
D100	F-3
D102	G-11
D104	G-11
D105	F-8
D106	F-8
D107	F-2
D109	F-9
D301	F-6
D302	F-7
D305	G-2
D307	G-11
D308	F-8
D310	F-5
D315	G-5
D401	H-12
D402	H-5
D403	H-12
D404	H-12
D405	H-12
D406	H-11
D407	G-12
D408	I-12
D409	F-3
D410	I-11
D412	I-2
D414	H-2
D501	E-8
D600	D-6
D601	A-6
D602	B-6
D603	A-5
D604	B-6
D605	B-6
D606	D-6
D607	E-6
D608	D-5
D610	B-4
D611	D-6
D612	E-5
D613	E-3
D614	F-3
D801	E-7
D802	A-8
D803	C-11
D804	B-10
D805	C-10
D806	A-11
D807	E-5
D809	A-8

VARIABLE RESISTOR

RV102	H-10
RV801	E-9

A SYSTEM CONTROL, HORIZONTAL OUTPUT, VERTICAL OUTPUT, CHROMINANCE, POWER, AUDIO

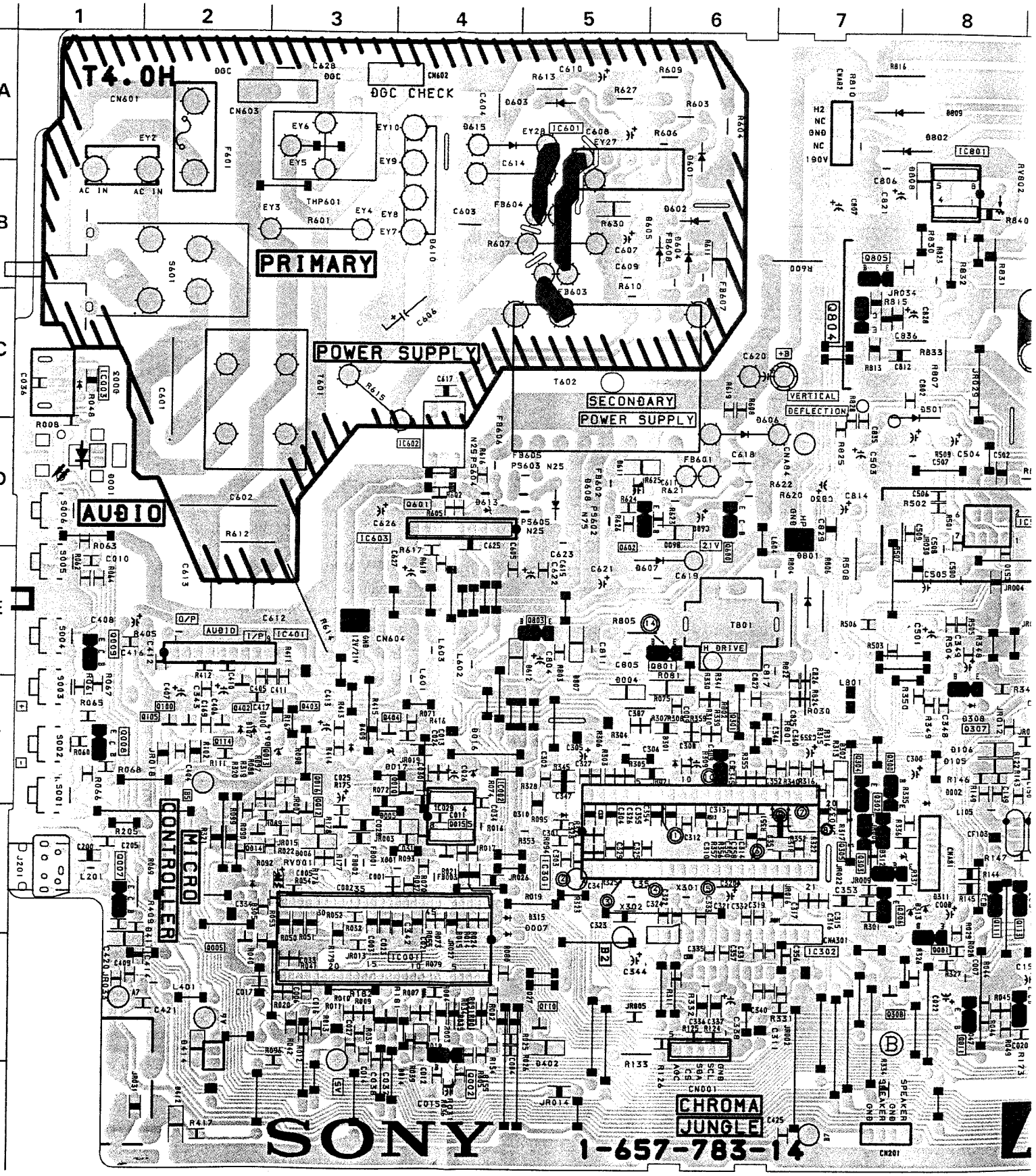
— A BOARD —

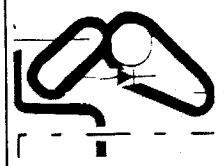


A SYSTEM CONTROL, HORIZONTAL OUTPUT, VERTICAL OUTPUT, CHROMINANCE, POWER, AUDIO

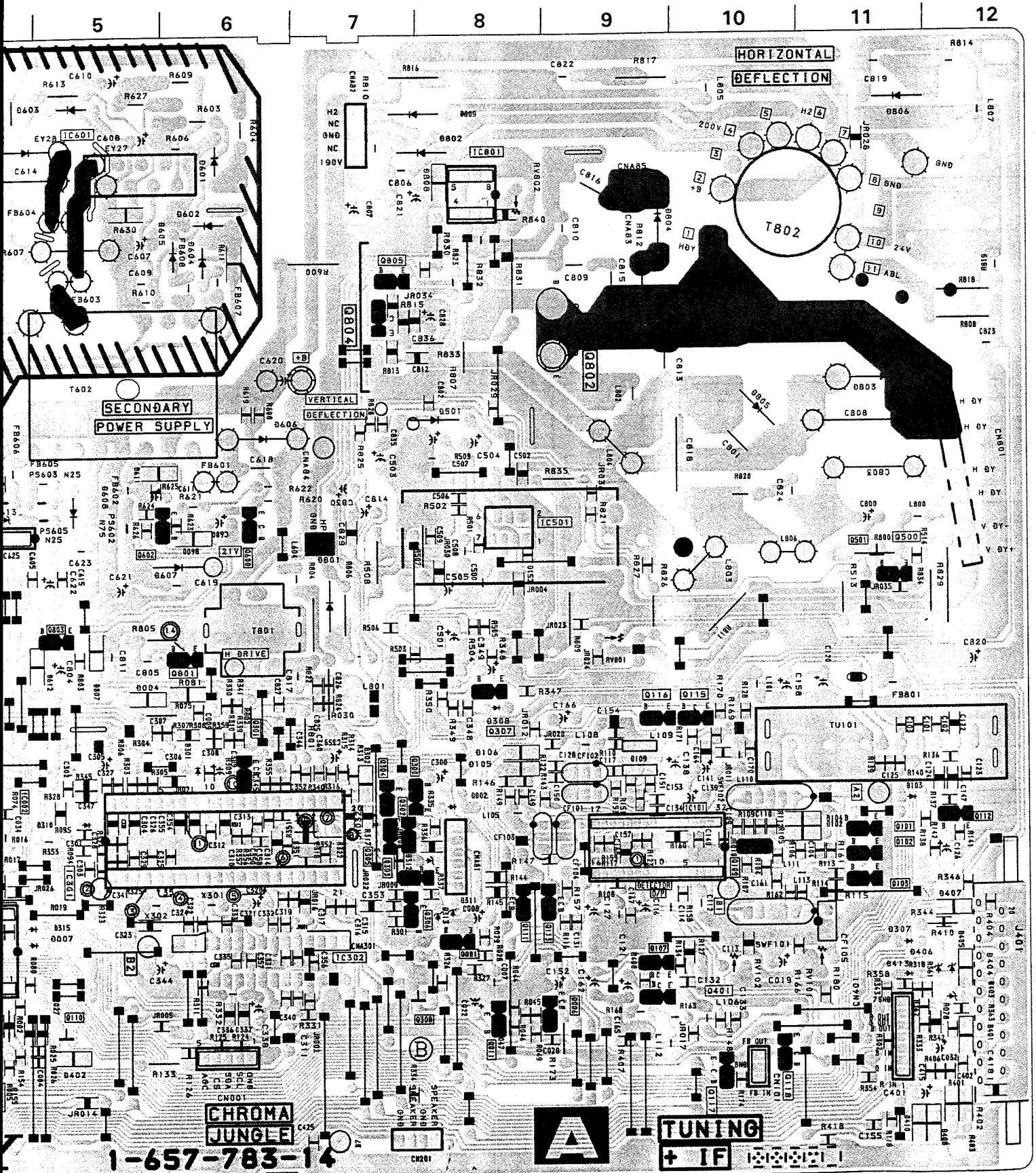
NOTE:
The circ
600 Vp-p
inspectio

— A BOARD —





NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.



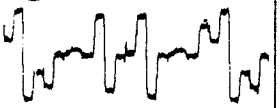
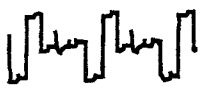
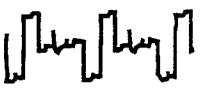
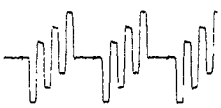
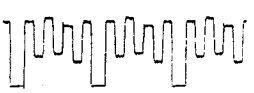
A BOARD * MARK

	21M1A/21T1A	21M1B/21T1B	21M1D/21T1D	21M1E/21T1E	21M1K/21T1K	21M1L/21T1L	21T1R	21M1U/21T1U
C016	0.47MF	0.47MF	0.47MF	0.47MF	0.47MF	0.47MF	—	0.47MF
C017	0.47MF	0.47MF	0.47MF	0.47MF	0.47MF	0.47MF	—	0.47MF
C112	—	0.1MF	—	—	—	—	—	—
C114	0.22MF	0.1MF	0.22MF	0.22MF	0.22MF	0.22MF	0.22MF	0.22MF
C116	—	2.2 50V	—	—	—	—	—	—
C120	1000MF 10V	1000MF 10V	1000MF 10V	470MF 10V	470MF 10V	470MF 10V	470MF 10V	470MF 10V
C131	—	—	—	—	0.001MF	—	0.001MF	—
C151	—	—	—	—	0.001MF	0.001MF	0.001MF	0.001MF
C153	—	—	—	—	15PF	15PF	15PF	15PF
C164	—	1MF	—	—	—	—	—	—
C322	—	—	—	—	18PF	—	18PF	—
C348	—	0.01MF	—	—	—	—	—	—
C349	—	22MF 50V	—	—	—	—	—	—
CF101	5.5/5.74MHz	5.5/6.5MHz	5.5/5.74MHz	5.5/5.74MHz	5.5/5.74MHz	6.0/6.5MHz	5.5/5.74MHz	6.0/6.5MHz
CF102	—	—	—	—	6.5MHz	—	6.5M,Hz	—
CF103	5.5MHz	5.5MHz	5.5MHz	5.5MHz	5.5MHz	6.0MHz	5.5MHz	6.0MHz
CF104	—	—	—	—	6.5MHz	—	6.5M,Hz	—
CF105	—	5.5MHz	—	—	—	—	—	5.5MHz
CN201	3P	3P	4P(M1) ,3P(T1)	3P	4P	3P	4P	3P
CN602	2P	2P	2P	2P	—	—	—	—
D105	—	—	—	—	1SS133T	—	1SS133T	—
D106	—	—	—	—	1SS133T	—	1SS133T	—
D109	—	—	—	—	1SV214	1SV214	1SV214	1SV214
D307	—	1SS133T	—	—	—	—	—	—
D308	—	1SS133T	—	—	—	—	—	—
IC001	Refer to "A board * mark-2" table							
IC101	TDA9806	TDA9812	TDA9806	TDA9806	TDA9806	TDA9806	TDA9806	TDA9806
IC301	MC44007P	MC44002P	MC44002P	MC44007P	MC44002P	MC44007P	MC44002P	MC44007P
JR011	–	0 : CHIP	–	–	–	–	–	–
L108	8.2µH	8.2µH	8.2µH	8.2µH	4.7µH	8.2µH	4.7µH	8.2µH
L802	CHOKE COIL	CHOKE COIL	CHOKE COIL	CHOKE COIL	AIR-CORE COIL	AIR-CORE COIL	AIR-CORE COIL	AIR-CORE COIL
Q111	–	–	–	–	DTC144ES	–	DTC144ES	–
Q113	–	–	–	–	DTC144ES	–	DTC144ES	–
Q307	–	2SA933AS	–	–	–	–	–	–
Q308	–	DTC144EK	DTC144EK	–	DTC144EK	–	DTC144EK	–
R006	47K	33K	33K	47K	33K	47K	33K	47K
R122	150	150	150	150	100	150	100	150
R134	180	180	180	180	180	150	180	150
R143	0	0	0	0	0	0	2.2K	0
R144	–	–	–	–	2.2K	–	2.2K	–
R145	–	–	–	–	2.2K	–	2.2K	–
R147	–	–	–	–	560	–	560	–
R149	–	–	–	–	2.2K	–	2.2K	–
R151	–	–	–	–	100K	100K	100K	100K
R153	–	–	–	–	100K	100K	100K	100K
R157	–	1K	–	–	–	–	–	–
R158	390	180	390	390	390	390	390	390
R161	0 : CHIP	–	0 : CHIP	0 : CHIP	0 : CHIP	0 : CHIP	0 : CHIP	0 : CHIP
R180	–	1K	–	–	–	–	–	–
R326	–	82K	82K	–	82K	–	82K	–
R327	–	100K	100K	–	100K	–	100K	–
R347	–	470	–	–	–	–	–	–
R348	–	10K	–	–	–	–	–	–
R349	–	220K	–	–	–	–	–	–
R350	–	220	–	–	–	–	–	–
R351	–	8.2M	8.2M	–	8.2M	–	8.2M	–
R410	75	75	75	75	75	68	75	68
RV102	–	22K	–	–	–	–	–	–
SWF101	OPWG1963	OFWK3953	OPWG1963	OPWG1963	OFWK2950	OFWJ1952M	OFWK2950	OFWJ1952M
TU101	BT-AC401	TELE4-002B	TELE4-002B	BT-AC401	BT-AC401	UV1315	TELE4-002B	BT-AU601
X301	–	–	–	–	14.32MHz	–	14.32MHz	–

A BOARD * MARK-2 (IC001)

KV-21M1A/21M1B/21M1D/21M1E/21M1K/21M1L/21M1U	SAA5288ZP/014
KV-21T1A/21T1B/21T1D/21T1E/21T1K/21T1L/21T1R/21T1U	SAA5290ZP/014

WAVEFORMS A BOARD

① 2.0 Vp-p (H)	② 1.0 Vp-p (H)	③ 1.0 Vp-p (H)	④ PAL  1.0 Vp-p (H)	④ SECAM/NTSC 1.2 Vp-p (H)
⑤ PAL  1.0 Vp-p (H)	⑤ SECAM  0.5 Vp-p (H)	⑤ NTSC 1.1 Vp-p (H)	⑥ PAL 1.4 Vp-p (H)	⑥ SECAM 0.7 Vp-p (H)
⑥ NTSC  1.5 Vp-p (H)	⑦  1.0 Vp-p (H)	⑧ 1.4 Vp-p (H)	⑨ 1.5 Vp-p (H)	⑩ 0.8 Vp-p (H)
⑪ 1.8 Vp-p (V)	⑫ 55 Vp-p (V)	⑬ 7.3 Vp-p (V)	⑭ 220 Vp-p (H)	⑮ 10 Vp-p (H)
⑯ 1.4KVp-p (H)	⑰ 51 Vp-p (H)	⑱ 24 Vp-p (H)		

CNA81
6P
B OUT
G OUT
R OUT
IFB
E
+5V
TO C BOARD CNC71

CN001
5P
AGC
CS
SDA
SCL
GND
SERVICE CONNECTOR

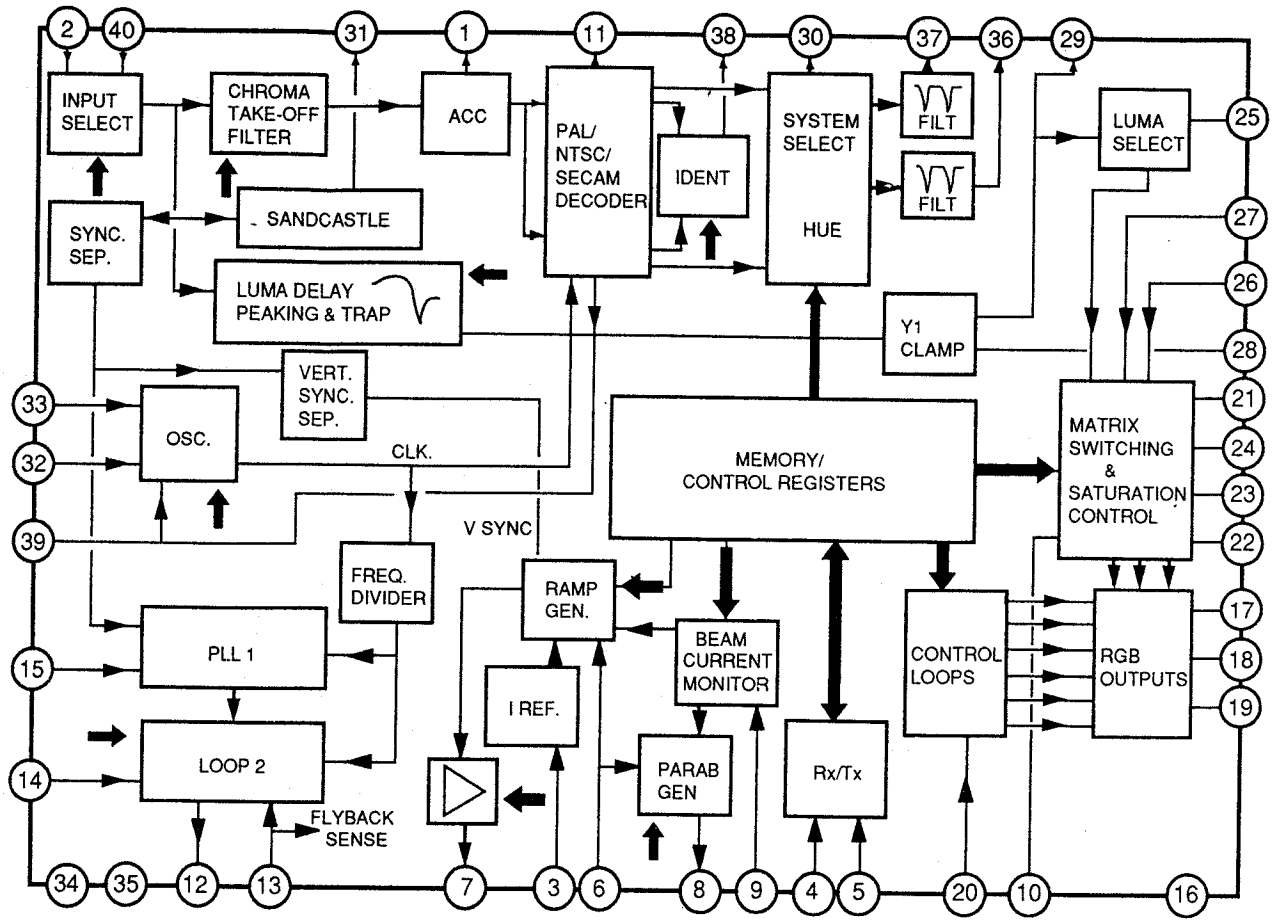
NA82
5P
H2
V/C
GND
N/C
190V
TO C BOARD CNC72

V
D PICTURE TUBE

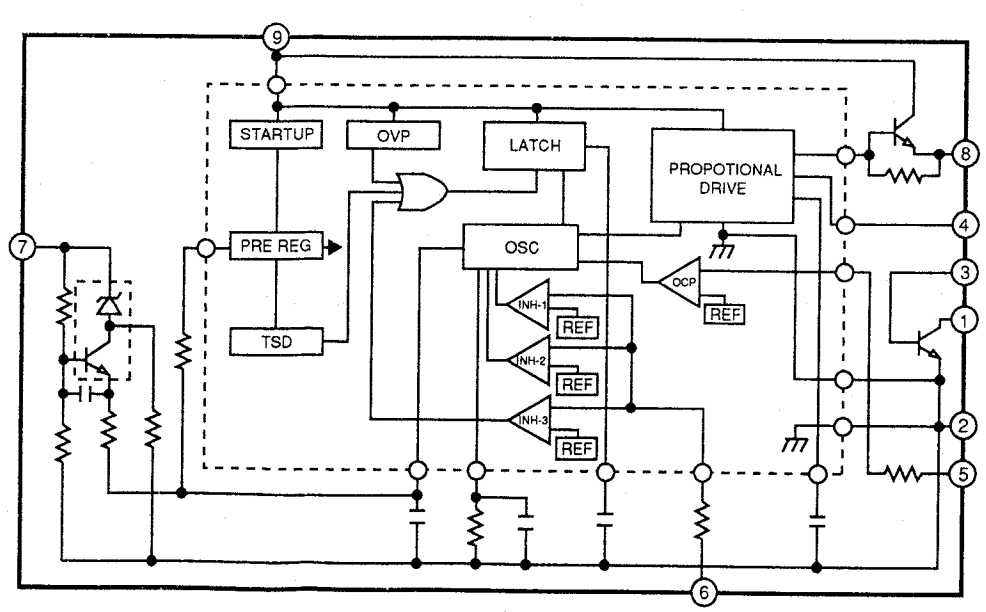
CNA83
1P
32
TO C BOARD CNC73

V
D C BOARD

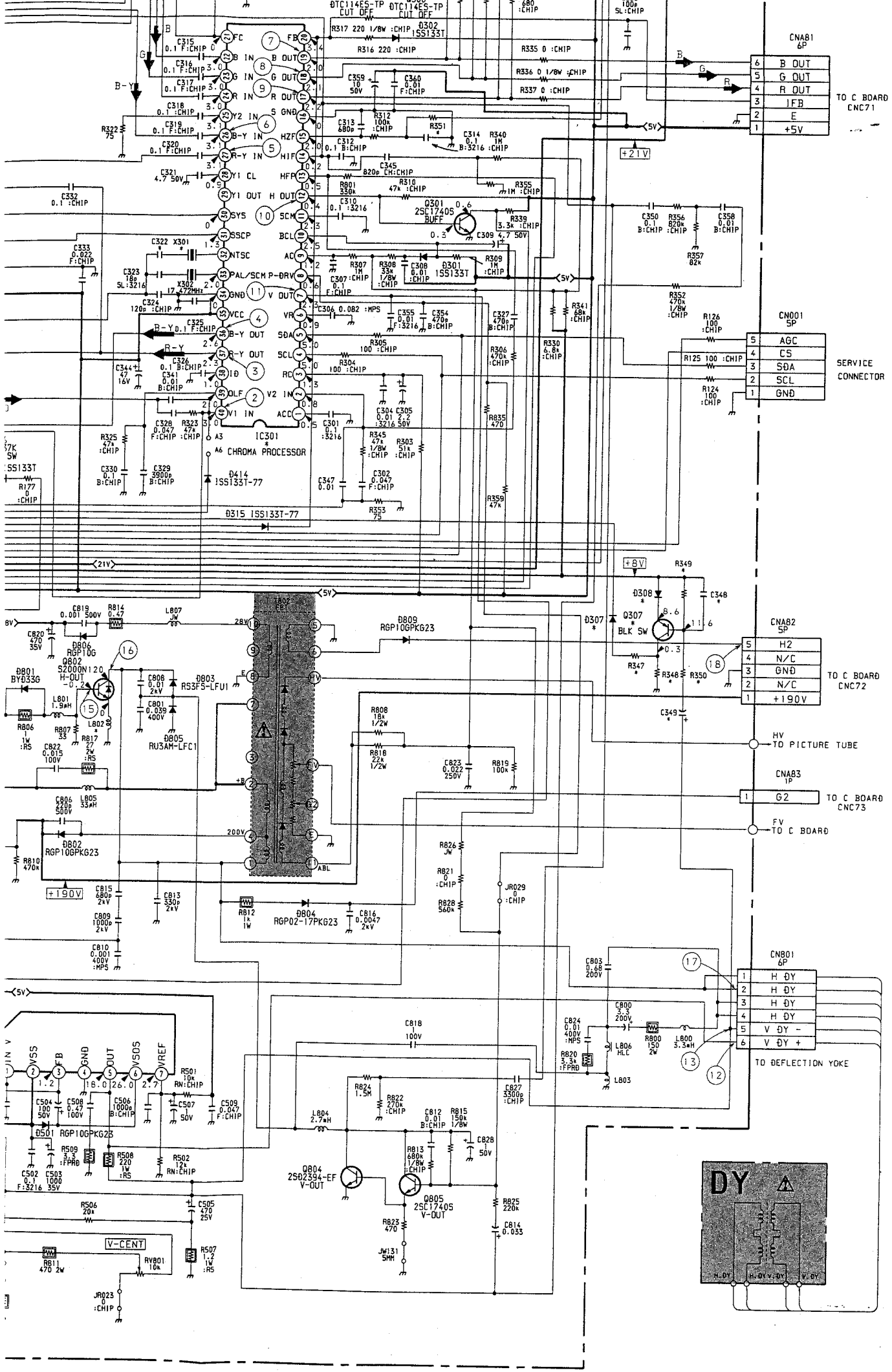
A BOARD IC301 MC44002P/MC44007P

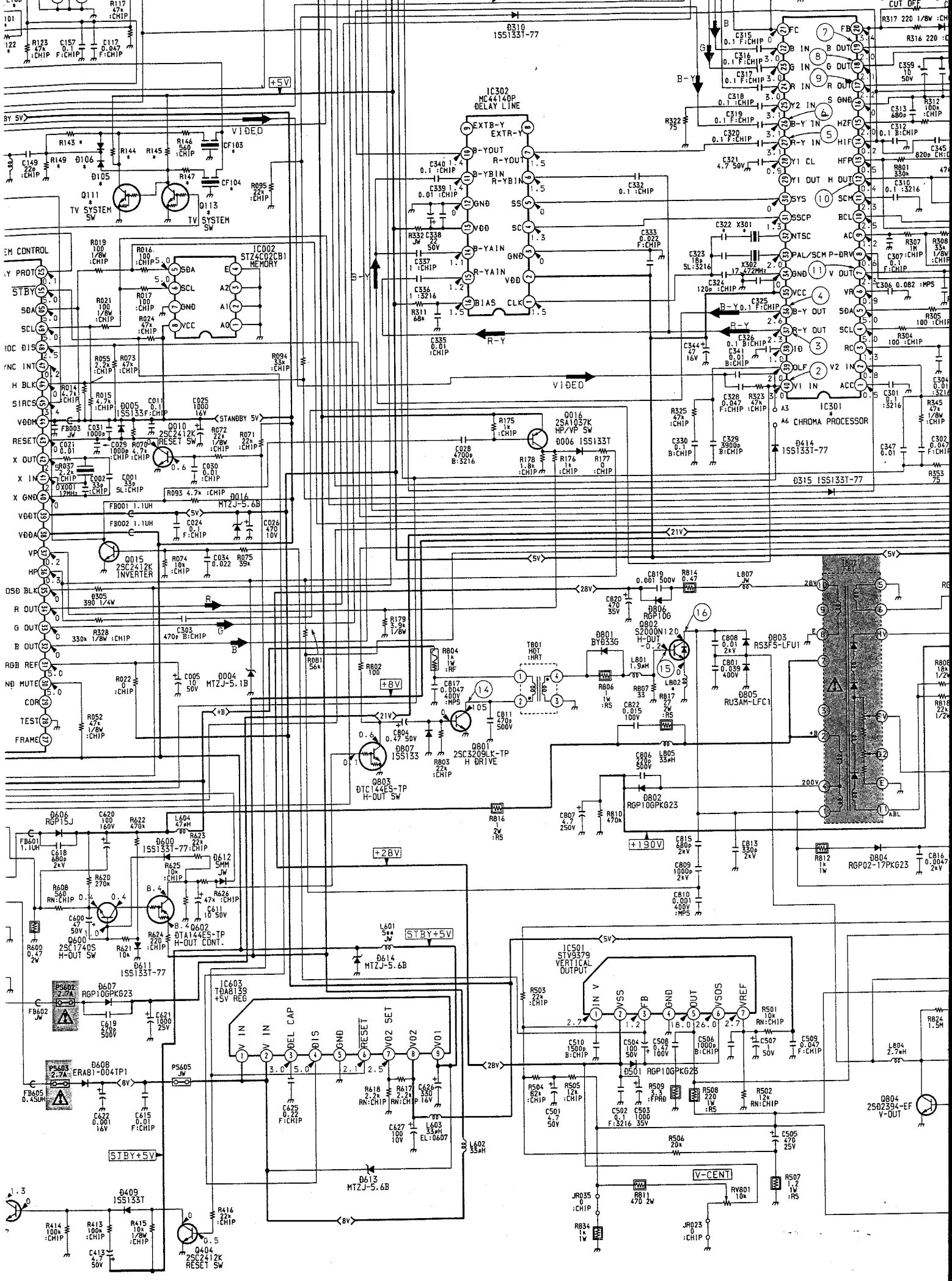


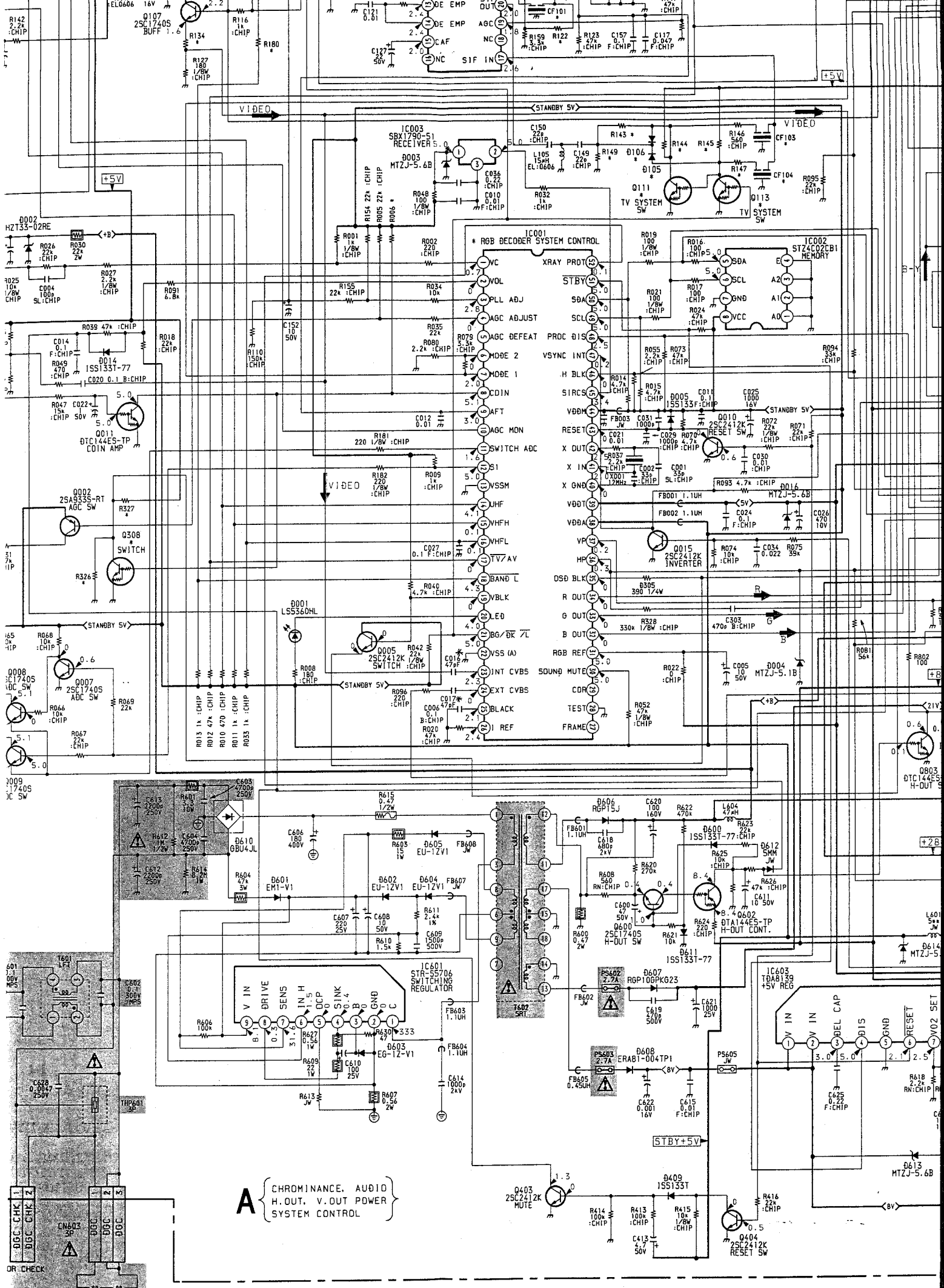
A BOARD IC601 STRS5706

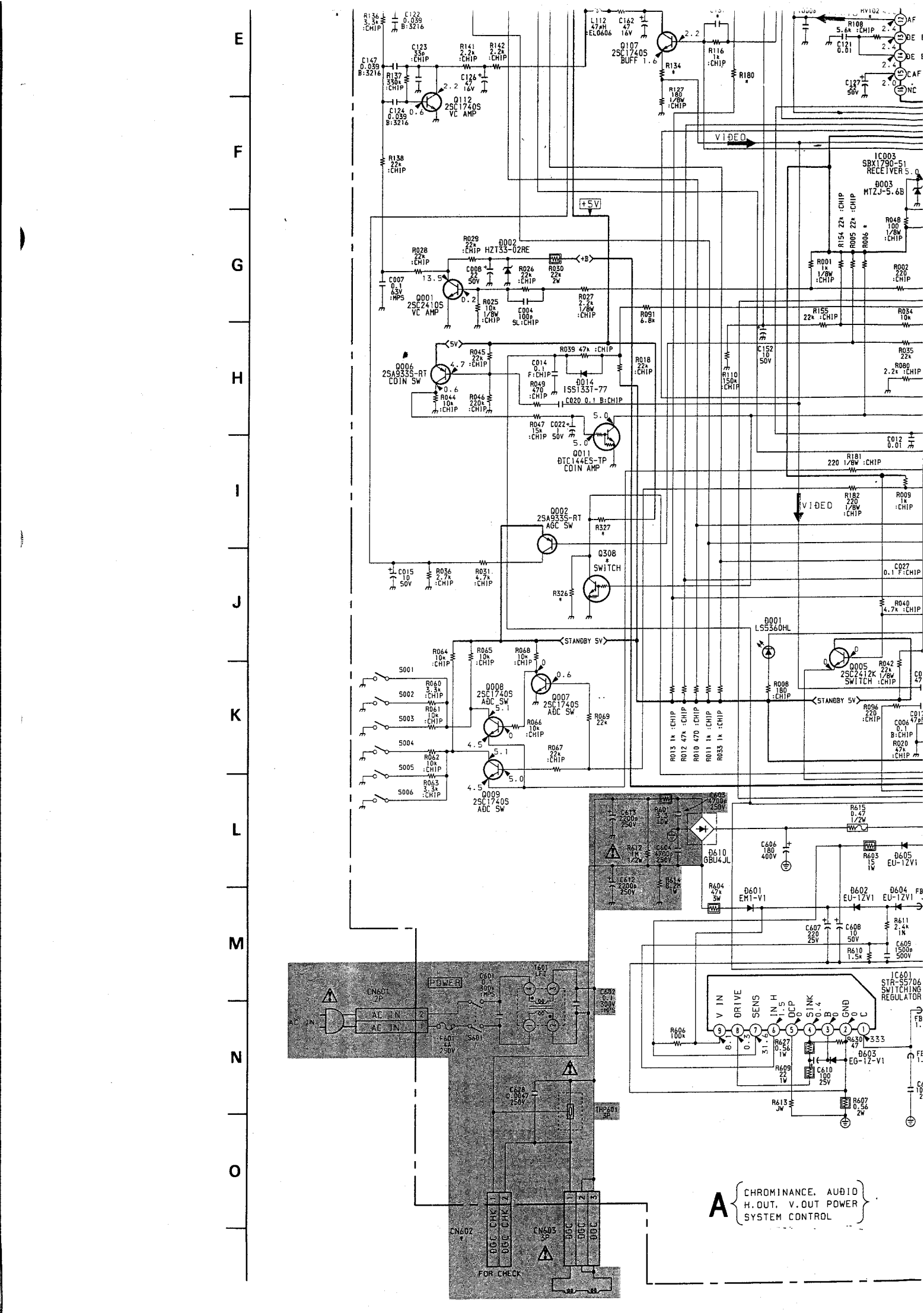


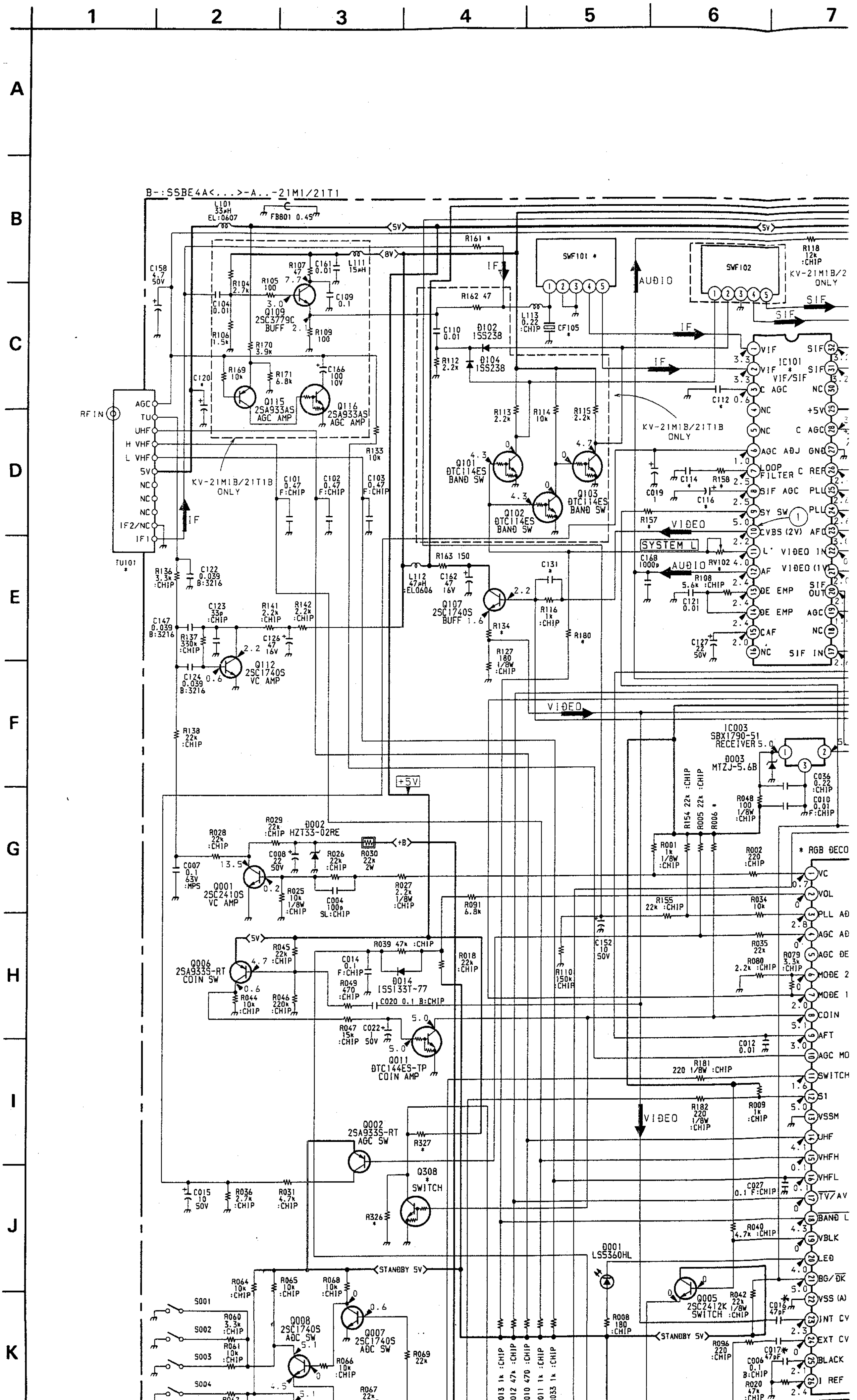
NB01
6P
DY
DY
DY
DY
DY -
DY +
EFLECTION YOKE

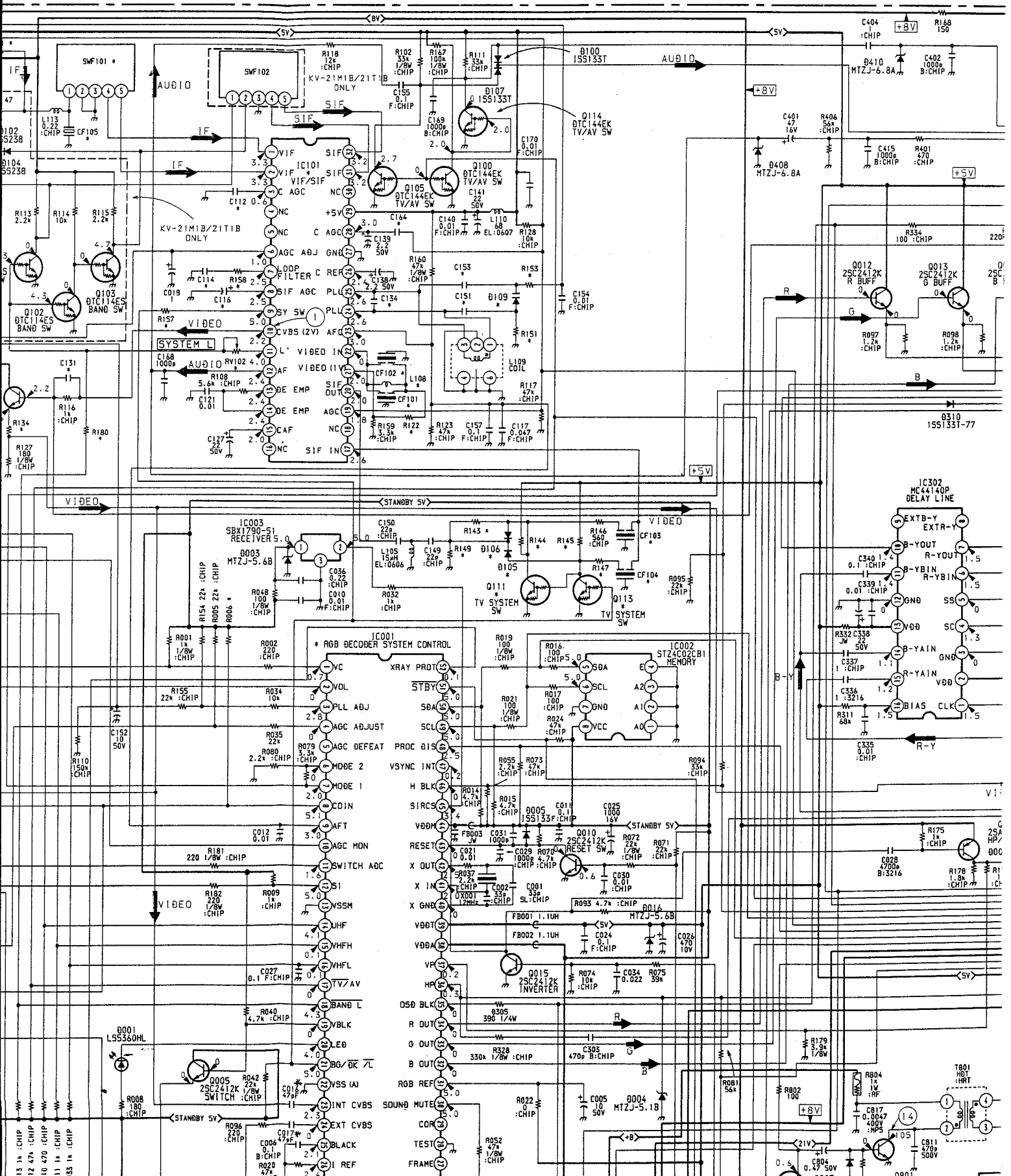

IC301
A6 CHROMA PROCESSOR
CNA81 6P
B OUT
G OUT
R OUT
IFB
E
+5V
TO C BOARD CNC71
CN001 5P
AGC
CS
SDA
SCL
GND
SERVICE CONNECTOR
CNA82 5P
H2
N/C
GND
N/C
+190V
TO C BOARD CNC72
HV
TO PICTURE TUBE
CNA83 1P
G2
TO C BOARD CNC73
FV
TO C BOARD
CN801 6P
H DY
H DY
H DY
H DY
V DY -
V DY +
TO DEFLECTION YOKE
DY
+5V
+21V
+8V
+190V
V-CENT

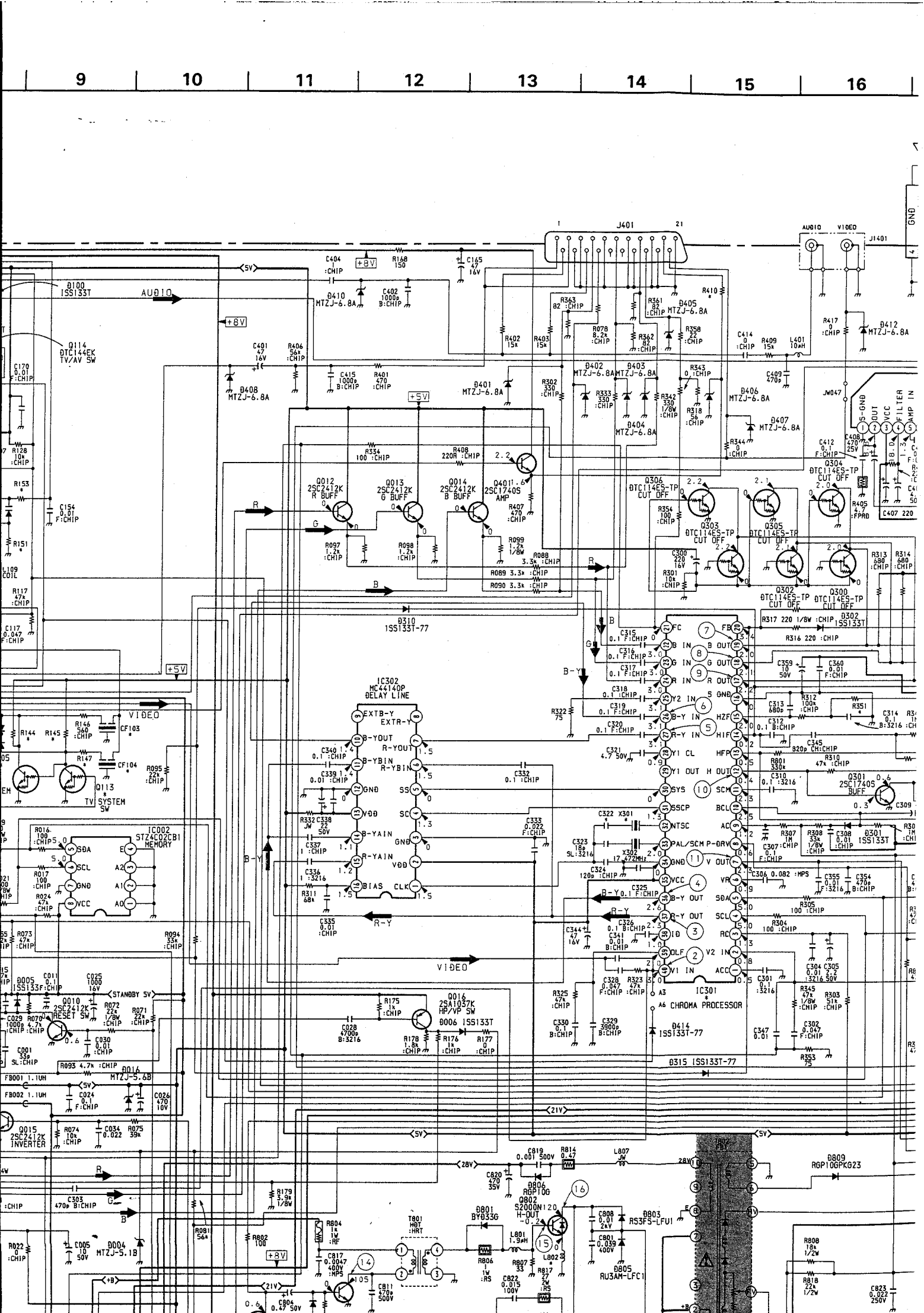

IC302
MC44140P
DELAY LINE
IC002
STZ4C02CB1
MEMORY
IC301
CHROMA PROCESSOR
IC501
STV9379
VERTICAL
OUTPUT
IC603
TDA8139
+5V REG
Q015
2SC2412K
INVERTER
Q010
2SC2412K
RESET SW
Q016
2SA1037K
HP/VP SW
Q801
2SC3209LK-TP
H DRIVE
Q803
DTC144ES-TP
H-OUT SW
Q600
2SC1740S
H-OUT SW
Q602
DTA144ES-TP
H-OUT CONT.
Q802
S2000N120
H-OUT
Q804
2SD2394-EF
V-OUT
Q404
2SC2412K
RESET SW
VIDEO
TV SYSTEM SW
STANDBY 5V
STBY+5V
+28V
+190V
+8V
+21V
V-CENT
CUT OFF
R-Y
B-Y
ABL

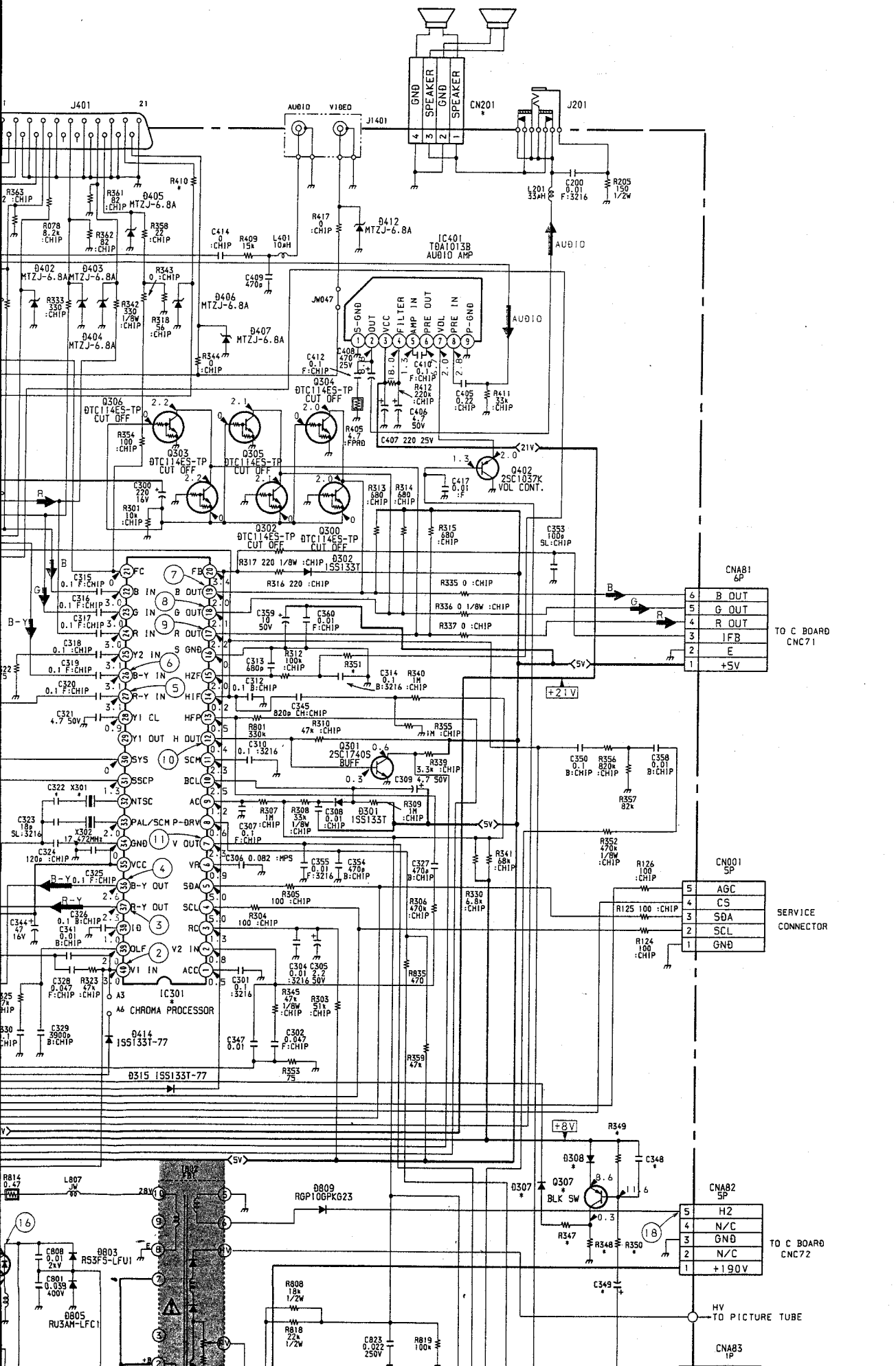

IC001
* RGB DECODER SYSTEM CONTROL
IC002
STZ4C02CB1
MEMORY
IC003
SBX1790-51
RECEIVER
IC601
STR-55706
SWITCHING
REGULATOR
IC603
TDA8139
+5V REG
VIDEO
STANDBY 5V
+5V
+B
STBY+5V
Q001
LS5360HL
Q002
2SA933S-RT
AGC SW
Q007
2SC1740S
ADC SW
Q008
SWITCH
Q009
2SC1740S
ADC SW
Q010
2SC2412K
RESET SW
Q011
DTC144ES-TP
COIN AMP
Q015
2SC2412K
INVERTER
Q107
2SC1740S
BUFF
Q111
TV SYSTEM
SW
Q113
TV SYSTEM
SW
Q403
2SC2412K
MUTE
Q404
2SC2412K
RESET SW
Q600
2SC1740S
H-OUT SW
Q602
DTA144ES-TP
H-OUT CONT.
D001
LS5360HL
D002
HZT33-02RE
D003
MTZJ-5.6B
D004
MTZJ-5.1B
D005
1SS133F
D006
MTZJ-5.6B
D010
1SS133T-77
D014
1SS133T-77
D016
MTZJ-5.6B
D600
1SS133T-77
D601
EM1-V1
D602
EU-1ZV1
D603
EG-1Z-V1
D604
EU-1ZV1
D605
EU-1ZV1
D606
RGP15J
D607
RGP10GPKG23
D608
ERA81-004TP1
D610
GBU4JL
D611
1SS133T-77
D612
5MM
D613
MTZJ-5.6B
D614
MTZJ-5.
D803
DTC144ES
H-OUT S
D409
1SS133T
A
CHROMINANCE, AUDIO
H.OUT, V.OUT POWER
SYSTEM CONTROL
CN603
3P
DGC
DGC
DGC
DGC CHK 1
DGC CHK 2
OR CHECK
T601
LFT
T602
SRT
THP601
5P
PS601
2.7A
PS602
2.7A
PS603
2.7A
PS605
JW
VIDEO
R
G
B
SCL
SDA
GND
VCC
A0
A1
A2
RESET
XRAY PROT
STBY
VSYNC INT
H BLK
SIRCS
RESET
X OUT
X IN
X GND
VDDT
VDDA
VP
HP
OSD BLK
R OUT
G OUT
B OUT
RGB REF
SOUND MUTE
CDR
TEST
FRAME
VC
VOL
PLL ADJ
AGC ADJUST
AGC DEFEAT
MODE 2
MODE 1
CDIN
AFT
AGC MON
SWITCH ADC
S1
VSSM
UHF
VHFH
VHFL
TV/AV
BAND L
VBLK
LED
BG/BK
VSS (A)
INT CVBS
EXT CVBS
BLACK
I REF
DE EMP
DE EMP
CAF
NC
SIF IN
AGC
NC
V IN
DRIVE
SENS
IN H
OCP
SINK
B
GND
C
V IN
V IN
DEL CAP
DIS
GND
RESET
VO2 SET


E
F
G
H
I
J
K
L
M
N
O
VIDEO
+5V
+B
5V
STANDBY 5V
IC003
SBX1790-51
RECEIVER
IC601
STR-S5706
SWITCHING
REGULATOR
Q107
2SC1740S
BUFF
Q112
2SC1740S
VC AMP
Q001
2SC2410S
VC AMP
Q006
2SA933S-RT
COIN SW
Q011
DTC144ES-TP
COIN AMP
Q002
2SA933S-RT
AGC SW
Q308
SWITCH
Q008
2SC1740S
ADC SW
Q007
2SC1740S
ADC SW
Q009
2SC1740S
ADC SW
Q005
2SC2412K
SWITCH
D002
HZT33-02RE
D014
1SS133T-77
D001
LS5360HL
D610
GBU4JL
D601
EM1-V1
D602
EU-1ZV1
D604
EU-1ZV1
D605
EU-1ZV1
D603
EG-1Z-V1
POWER
AC IN
CN601
CN602
CN603
FOR CHECK
A
CHROMINANCE, AUDIO
H.OUT, V.OUT POWER
SYSTEM CONTROL


B-:SSBE4A<...>-A..-21M1/21T1
L101 33μH EL:0607
FB801 0.45
C158 4.7 50V
R104 2.7k
R105 100
R107 47
C161 0.01
L111 15μH
C104 0.01
Q109 2SC3779C BUFF
C109 0.1
R106 1.5k
R109 100
R170 3.9k
R169 10k
R171 6.8k
C166 100 10V
C120
Q115 2SA933AS AGC AMP
Q116 2SA933AS AGC AMP
RF IN
AGC
TU
UHF
H VHF
L VHF
5V
NC
IF2/NC
IF1
TU101
KV-21M1B/21T1B ONLY
C101 0.47 F:CHIP
C102 0.47 F:CHIP
C103 0.47 F:CHIP
R133 10k
IF
R136 3.3k :CHIP
C122 0.039 B:3216
C123 33p :CHIP
R141 2.2k :CHIP
R142 2.2k :CHIP
C147 0.039 B:3216
R137 330k :CHIP
C126 47 16V
Q112 2SC1740S VC AMP
C124 0.039 B:3216
R138 22k :CHIP
5V
8V
R161
R162 47
L113 0.22 :CHIP
CF105
C110 0.01
D102 1SS238
R112 2.2k
D104 1SS238
SWF101
AUDIO
SWF102
KV-21M1B/2 ONLY
R118 12k :CHIP
SIF
R113 2.2k
R114 10k
R115 2.2k
Q101 DTC114ES BAND SW
Q102 DTC114ES BAND SW
Q103 DTC114ES BAND SW
IC101 VIF/SIF
VIF
C AGC
NC
AGC ADJ
LOOP FILTER
SIF AGC
SY SW
CVBS (2V)
L' VIDEO IN
AF
DE EMP
CAF
SIF
+5V
GND
C REF
PLL
AFC
VIDEO (1V)
SIF OUT
SIF IN
C112
C114
R158
C019 1
C116
R157
VIDEO
SYSTEM L
C168 1000p
RV102
R108 5.6k :CHIP
C121 0.01
C127 22 50V
R163 150
L112 47μH :EL0606
C162 47 16V
C131
Q107 2SC1740S BUFF
R116 1k :CHIP
R134
R180
R127 180 1/8W :CHIP
+5V
IC003 SBX1790-51 RECEIVER
D003 MTZJ-5.6B
C036 0.22 :CHIP
C010 0.01 F:CHIP
R048 100 1/8W :CHIP
R154 22k :CHIP
R005 22k :CHIP
R006
R001 1k 1/8W :CHIP
R002 220 :CHIP
* RGB DECO
VC
VOL
PLL AD
AGC AD
AGC DE
MODE 2
MODE 1
COIN
AFT
AGC MO
SWITCH
S1
VSSM
UHF
VHFH
VHFL
TV/AV
BAND L
VBLK
LED
BG/DK
VSS (A)
INT CV
EXT CV
BLACK
I REF
R028 22k :CHIP
R029 22k :CHIP
D002 HZT33-02RE
C008 22 50V
R026 22k :CHIP
R030 22k 2W
+B
C007 0.1 63V :MPS
Q001 2SC2410S VC AMP
R025 10k 1/8W :CHIP
C004 100p SL:CHIP
R027 2.2k 1/8W :CHIP
R091 6.8k
R155 22k :CHIP
R034 10k
C152 10 50V
R035 22k
R079 3.3k :CHIP
R080 2.2k :CHIP
R110 150k :CHIP
Q006 2SA933S-RT COIN SW
R045 22k :CHIP
R039 47k :CHIP
C014 0.1 F:CHIP
D014 1SS133T-77
R018 22k :CHIP
R049 470 :CHIP
C020 0.1 B:CHIP
R044 10k :CHIP
R046 220k :CHIP
R047 15k :CHIP
C022 1 50V
Q011 DTC144ES-TP COIN AMP
C012 0.01
R181 220 1/8W :CHIP
R182 220 1/8W :CHIP
R009 1k :CHIP
Q002 2SA933S-RT AGC SW
R327
Q308 SWITCH
R326
C015 10 50V
R036 2.7k :CHIP
R031 4.7k :CHIP
C027 0.1 F:CHIP
R040 4.7k :CHIP
D001 LS5360HL
STANDBY 5V
R064 10k :CHIP
R065 10k :CHIP
R068 10k :CHIP
S001
S002
S003
S004
R060 3.3k :CHIP
R061 10k :CHIP
Q008 2SC1740S ADC SW
Q007 2SC1740S ADC SW
R066 10k :CHIP
R069 22k
R067 22k
R008 180 :CHIP
Q005 2SC2412K SWITCH
R042 22k 1/8W :CHIP
C016 47pF
R096 220 :CHIP
C017 47pF
C006 0.1 B:CHIP
R020 47k :CHIP
R013 1k :CHIP
R012 47k :CHIP
R010 470 :CHIP
R011 1k :CHIP
R033 1k :CHIP


AUDIO
VIDEO
SIF
IF
SYSTEM L
STANDBY 5V
IC101
VIF/SIF
IC001
RGB DECODER SYSTEM CONTROL
IC002
STZ4C02CB1
MEMORY
IC003
SBX1790-S1
RECEIVER
IC302
MC44140P
DELAY LINE
KV-21M1B/21T1B ONLY
Q100 DTC144EK TV/AV SW
Q101 DTC144ES BAND SW
Q105 DTC144EK TV/AV SW
Q114 DTC144EK TV/AV SW
Q111 TV SYSTEM SW
Q113 TV SYSTEM SW
Q010 2SC2412K RESET SW
Q012 2SC2412K R BUFF
Q013 2SC2412K G BUFF
Q015 2SC2412K INVERTER
Q005 2SC2412K SWITCH
D100 1SS133T
D107 1SS133T
D109
D105
D106
D005 1SS133F
D310 1SS133T-77
D003 MTZJ-5.6B
D408 MTZJ-6.8A
D410 MTZJ-6.8A
D016 MTZJ-5.6B
D004 MTZJ-5.1B
D001 LS5360HL
L109 COIL
L108
CF101
CF102
CF103
CF104
CF105
T601 HOT HRT
SWF101
SWF102
SCL
SDA
VCC
GND
R-Y
B-Y
R
G
B

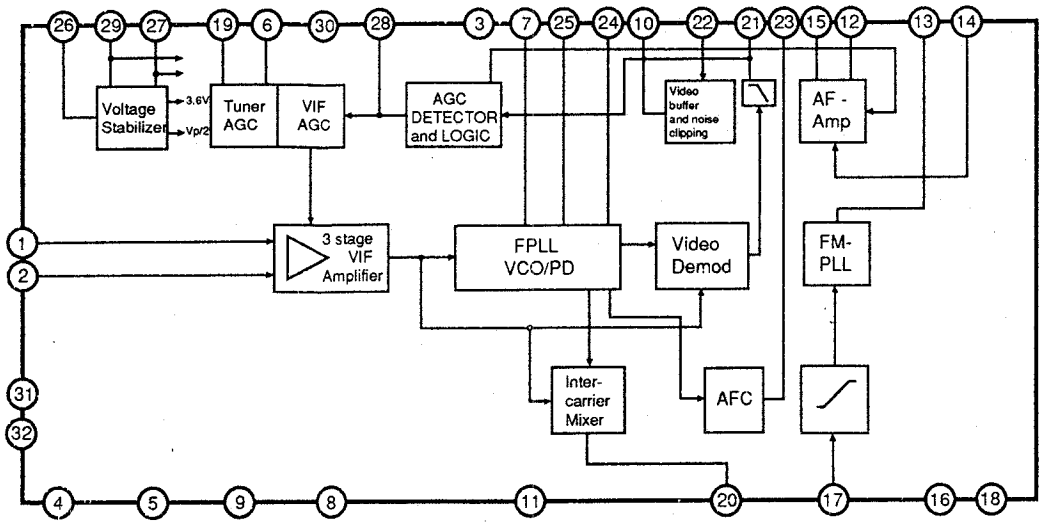

9
10
11
12
13
14
15
16
J401
AUDIO
VIDEO
J1401
GND
Q100 1SS133T
Q114 DTC144EK TV/AV SW
Q113 TV SYSTEM SW
Q012 2SC2412K R BUFF
Q013 2SC2412K G BUFF
Q014 2SC2412K B BUFF
Q4011.6 2SC1740S AMP
Q303 DTC114ES-TP CUT OFF
Q304 DTC114ES-TP CUT OFF
Q305 DTC114ES-TP CUT OFF
Q306 DTC114ES-TP CUT OFF
Q300 DTC114ES-TP CUT OFF
Q302 DTC114ES-TP CUT OFF
Q301 2SC1740S BUFF
Q310 1SS133T-77
Q302 1SS133T
Q301 1SS133T
Q014 2SA1037K HP/VP SW
Q006 1SS133T
Q414 1SS133T-77
Q315 1SS133T-77
Q010 2SC2412K RESET SW
Q015 2SC2412K INVERTER
Q016 MTZJ-5.6B
Q004 MTZJ-5.1B
Q802 2S2000N120 H-OUT
Q806 RGP10G
Q809 RGP10GPKG23
Q803 RS3FS-LFUI
Q805 RU3AM-LFC1
Q801 BY933G
Q408 MTZJ-6.8A
Q410 MTZJ-6.8A
Q405 MTZJ-6.8A
Q402 MTZJ-6.8A
Q403 MTZJ-6.8A
Q404 MTZJ-6.8A
Q401 MTZJ-6.8A
Q406 MTZJ-6.8A
Q407 MTZJ-6.8A
Q412 MTZJ-6.8A
IC302 MC44140P DELAY LINE
IC002 STZ4C02CB1 MEMORY
IC301 CHROMA PROCESSOR
T801 HOT :HRT
L109 COIL
L401 10uH
L801 1.9uH
L802 27
JW047
+8V
+5V
+21V
+28V
+B
R-Y
B-Y
G
B
R
VIDEO
STANDBY 5V



A BOARD IC101

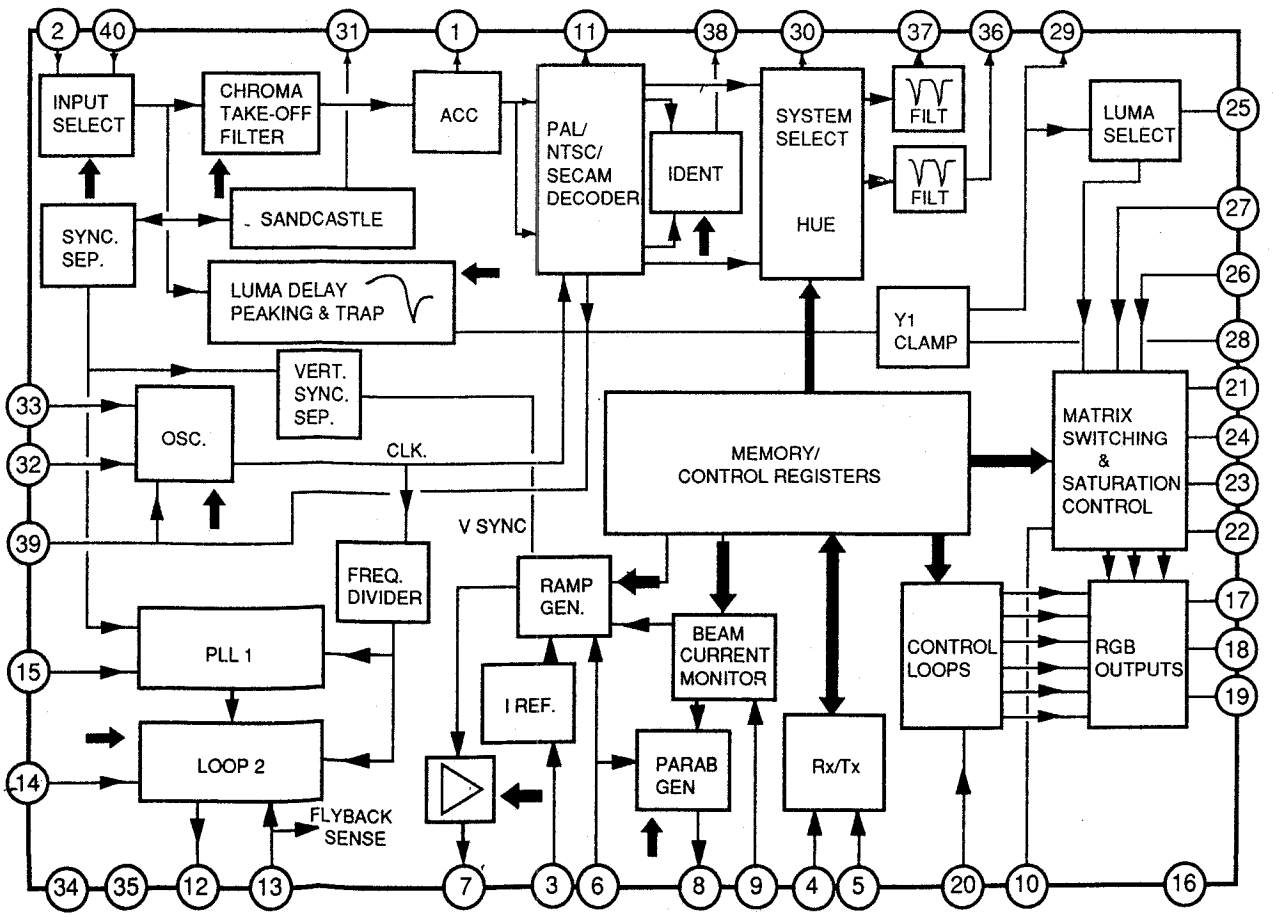
A BOARD IC301

A BOARD IC101 TDA9806/TDA9812



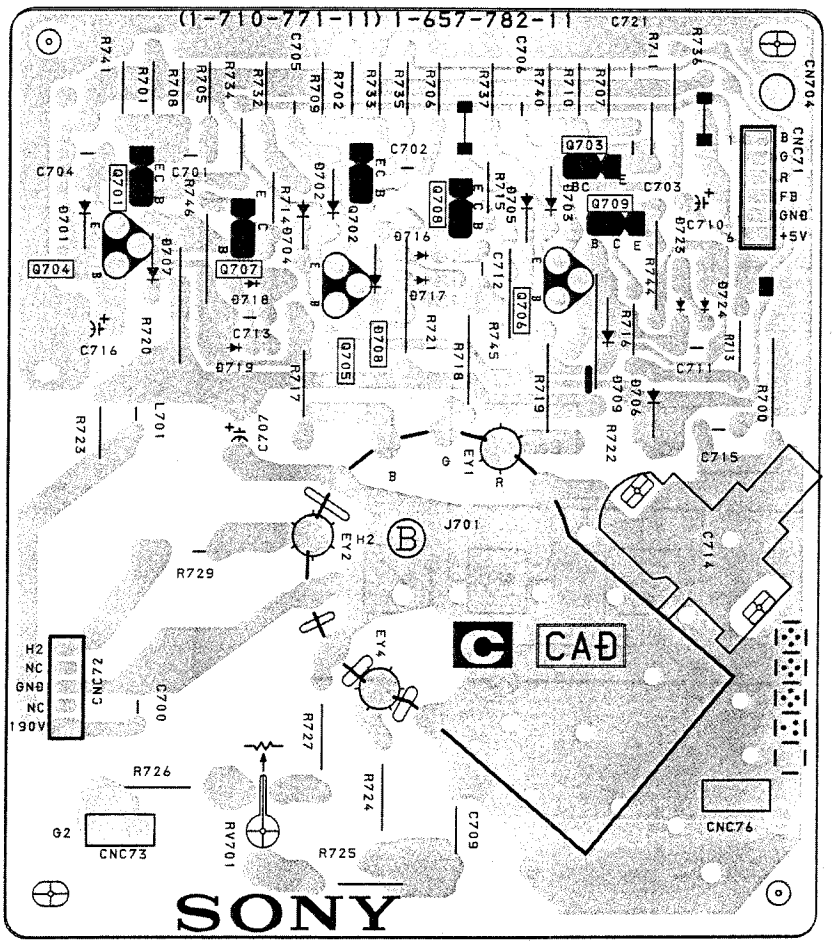
TO C BOARD CNC71

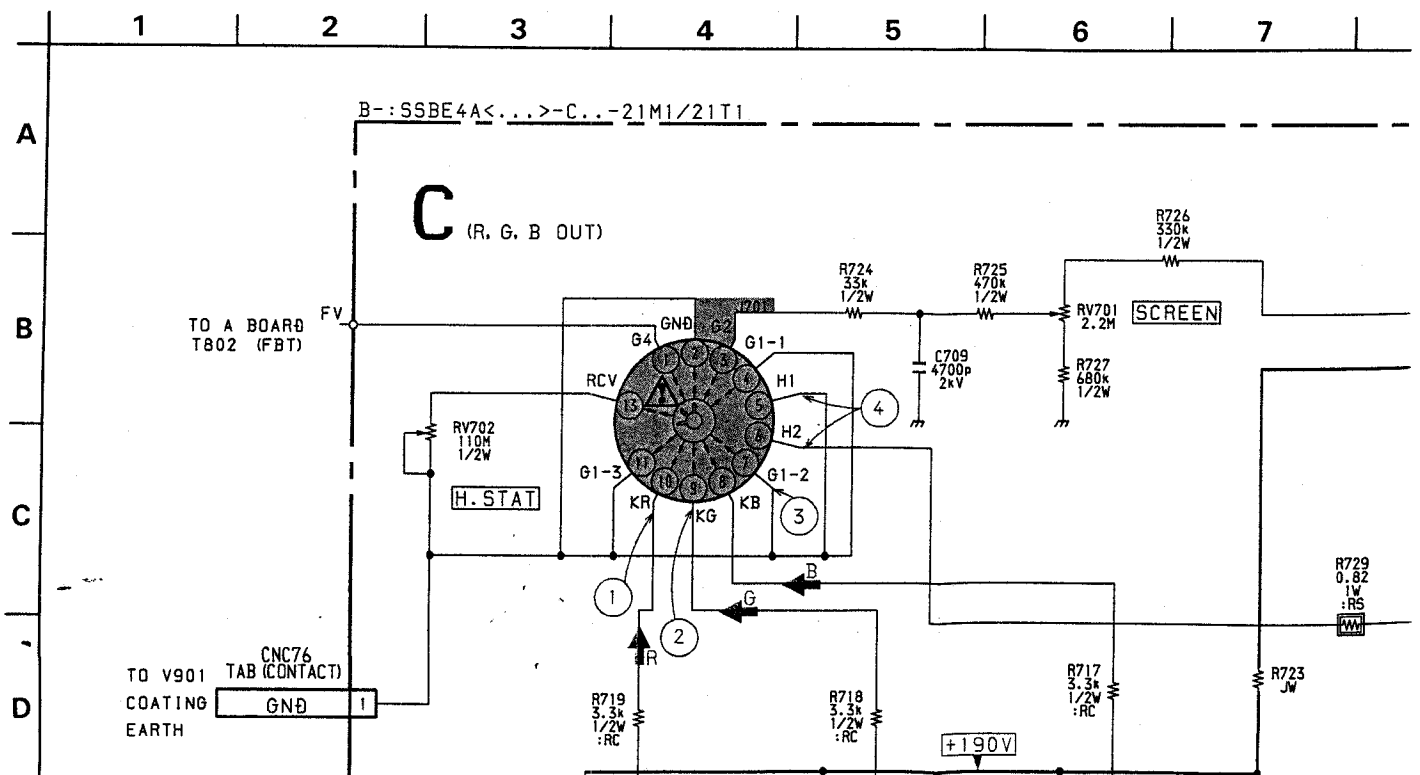
A BOARD IC301 MC44002P/MC44007P

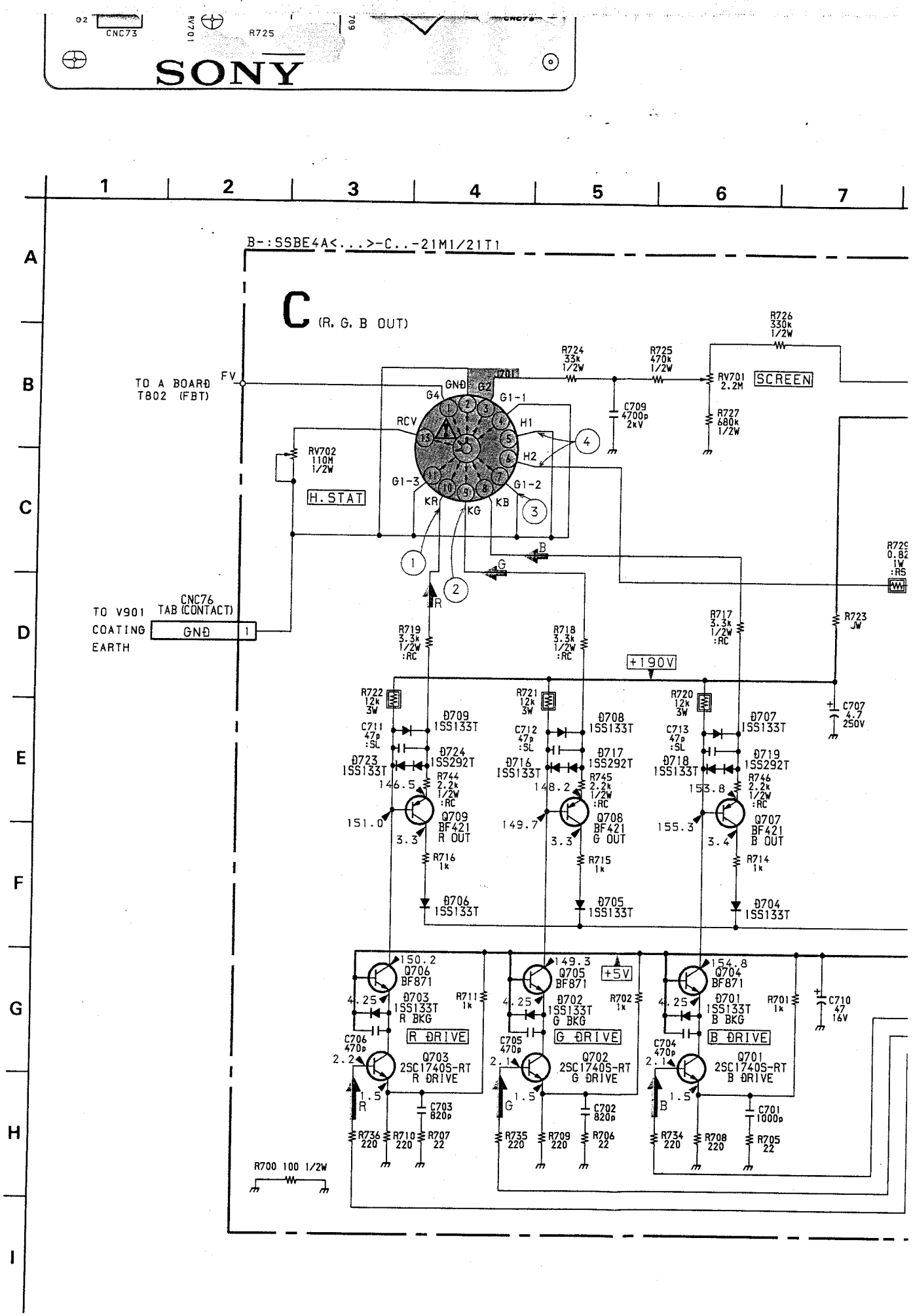


C [R.G.B OUT]

— C BOARD —






SONY
CNC73
R725
B-:SSBE4A<...>-C..-21M1/21T1
C (R, G, B OUT)
TO A BOARD T802 (FBT)
FV
RV702 110M 1/2W
H.STAT
R724 33k 1/2W
R725 470k 1/2W
R726 330k 1/2W
RV701 2.2M
SCREEN
C709 4700p 2kV
R727 680k 1/2W
G4
G1-1
G1-2
G1-3
RCV
H1
H2
KR
KG
KB
GND
G2
TO V901 COATING EARTH
CNC76 TAB (CONTACT)
GND
R719 3.3k 1/2W :RC
R718 3.3k 1/2W :RC
R717 3.3k 1/2W :RC
R723 JW
+190V
R722 12k 3W
R721 12k 3W
R720 12k 3W
C707 4.7 250V
C711 47p :SL
C712 47p :SL
C713 47p :SL
D709 1SS133T
D724 1SS292T
D723 1SS133T
D708 1SS133T
D717 1SS292T
D716 1SS133T
D707 1SS133T
D719 1SS292T
D718 1SS133T
R744 2.2k 1/2W :RC
R745 2.2k 1/2W :RC
R746 2.2k 1/2W :RC
146.5
148.2
153.8
151.0
149.7
155.3
Q709 BF421 R OUT
Q708 BF421 G OUT
Q707 BF421 B OUT
3.3
3.3
3.4
R716 1k
R715 1k
R714 1k
D706 1SS133T
D705 1SS133T
D704 1SS133T
150.2
149.3
154.8
Q706 BF871
Q705 BF871
Q704 BF871
+5V
4.25
4.25
4.25
D703 1SS133T R BKG
D702 1SS133T G BKG
D701 1SS133T B BKG
R711 1k
R702 1k
R701 1k
C710 47 16V
R DRIVE
G DRIVE
B DRIVE
C706 470p
C705 470p
C704 470p
2.2
2.1
2.1
Q703 2SC1740S-RT R DRIVE
Q702 2SC1740S-RT G DRIVE
Q701 2SC1740S-RT B DRIVE
1.5
1.5
1.5
C703 820p
C702 820p
C701 1000p
R736 220
R710 220
R707 22
R735 220
R709 220
R706 22
R734 220
R708 220
R705 22
R700 100 1/2W

8 | 9 | 10 | 11 | 12

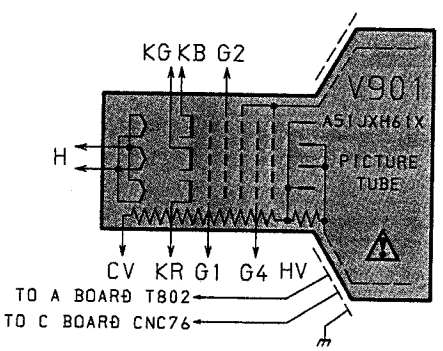
CNC73
TAB-CONTACT

1	G2

1	+190V
2	N/C
3	E
4	N/C
5	H2

CNC72
5P

TO A BOARD
CNA82



CNC71
6P

1	B IN
2	G IN
3	R IN
4	FB
5	E
6	+5V

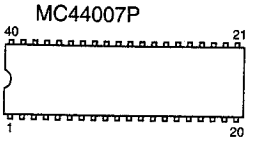
TO A BOARD
CNA81

WAVEFORMS C BOARD

① 100 Vp-p (H)	② 96 Vp-p (H)
③ 85 Vp-p (H)	④ 23 Vp-p (H)

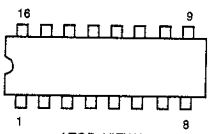
5-4. SEMICONDUCTORS

MC44002P
MC44007P



(TOP VIEW)

MC44140P



(TOP VIEW)

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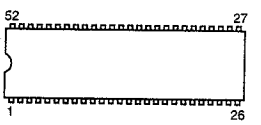
SAA5290ZP/014



(TOP VIEW)

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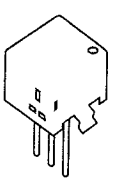

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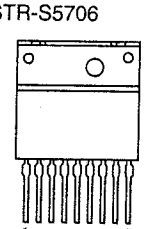
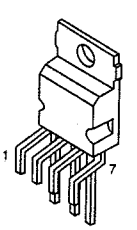


STV9379



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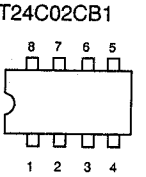
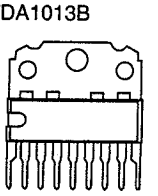


(TOP VIEW)

TDA1013B



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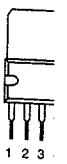
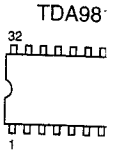


TDA98
TDA98



(TO

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2SA109

BF871-1

DTA144
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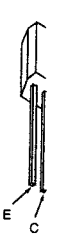
DTC144



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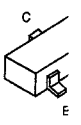

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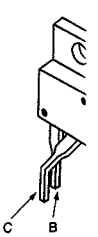
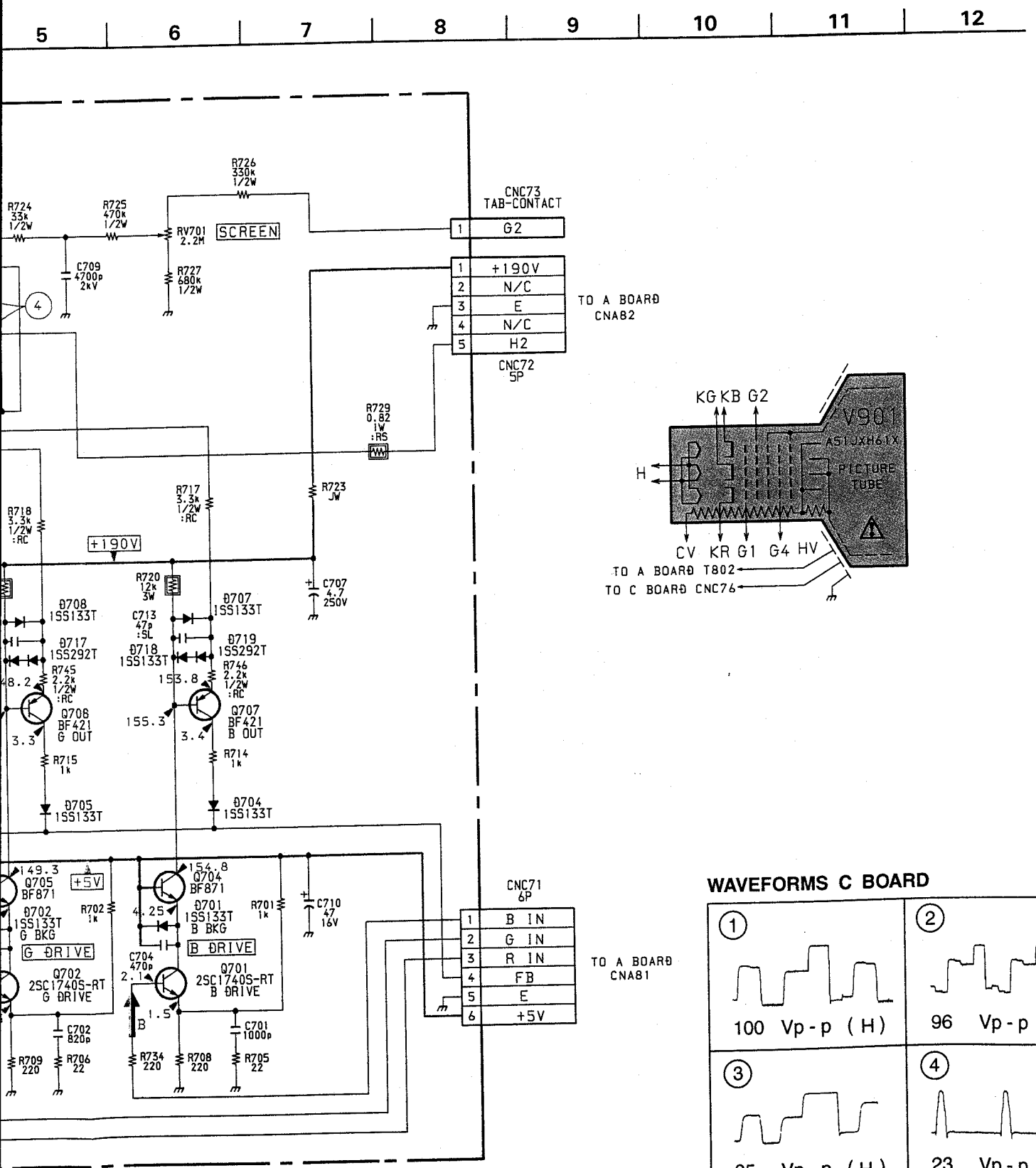
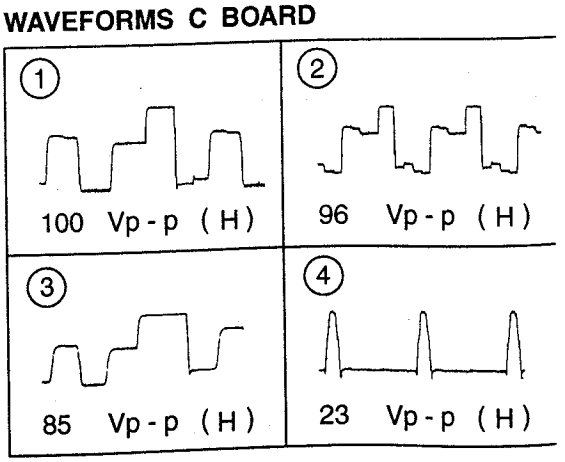


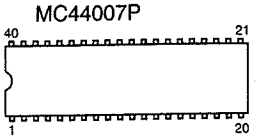


WAVEFORMS C BOARD



5-4. SEMICONDUCTORS

MC44002P
MC44007P



(TOP VIEW)

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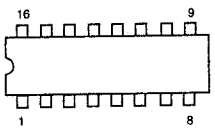

(TOP VIEW)

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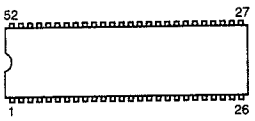

(TOP VIEW)

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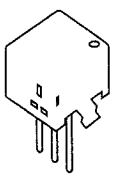

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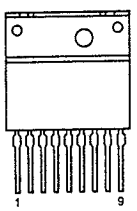

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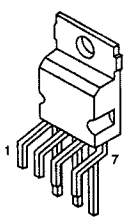

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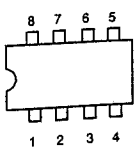

(TOP VIEW)

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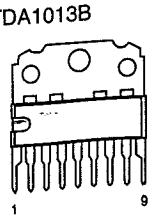

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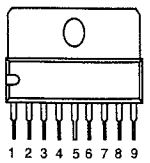

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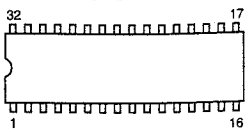

(TOP VIEW)

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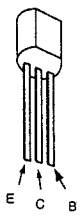

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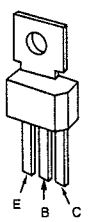

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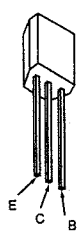

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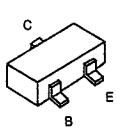

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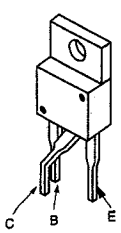

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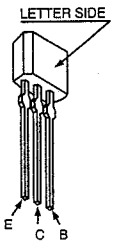

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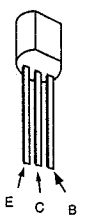

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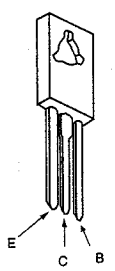

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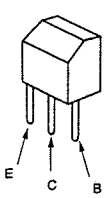

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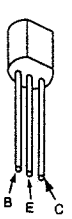

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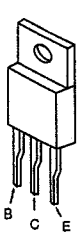

HZT33-02RE
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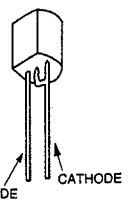

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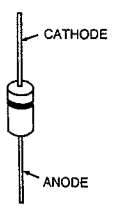
EL1Z	RGP10GPKG23
EM1-V1	RGP15J-6040FG23
ERC06-15S	RU3AM
ERD28-06S	1SS168
ERD28-08S	1SS238



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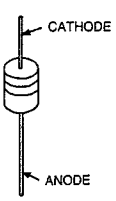
ERA83-006	RD5.6ESB2
MTZJ-5.1B	RD6.8ESB2
MTZJ-5.6B	1SS133T-77
MTZJ-6.8A	



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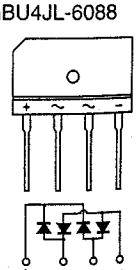

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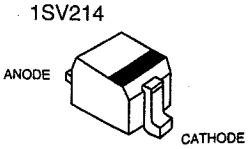
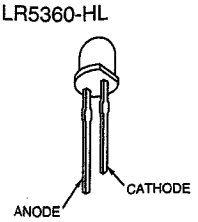


LR5360-HL



SECTION 6

EXPLODED VIEWS

NOTE :

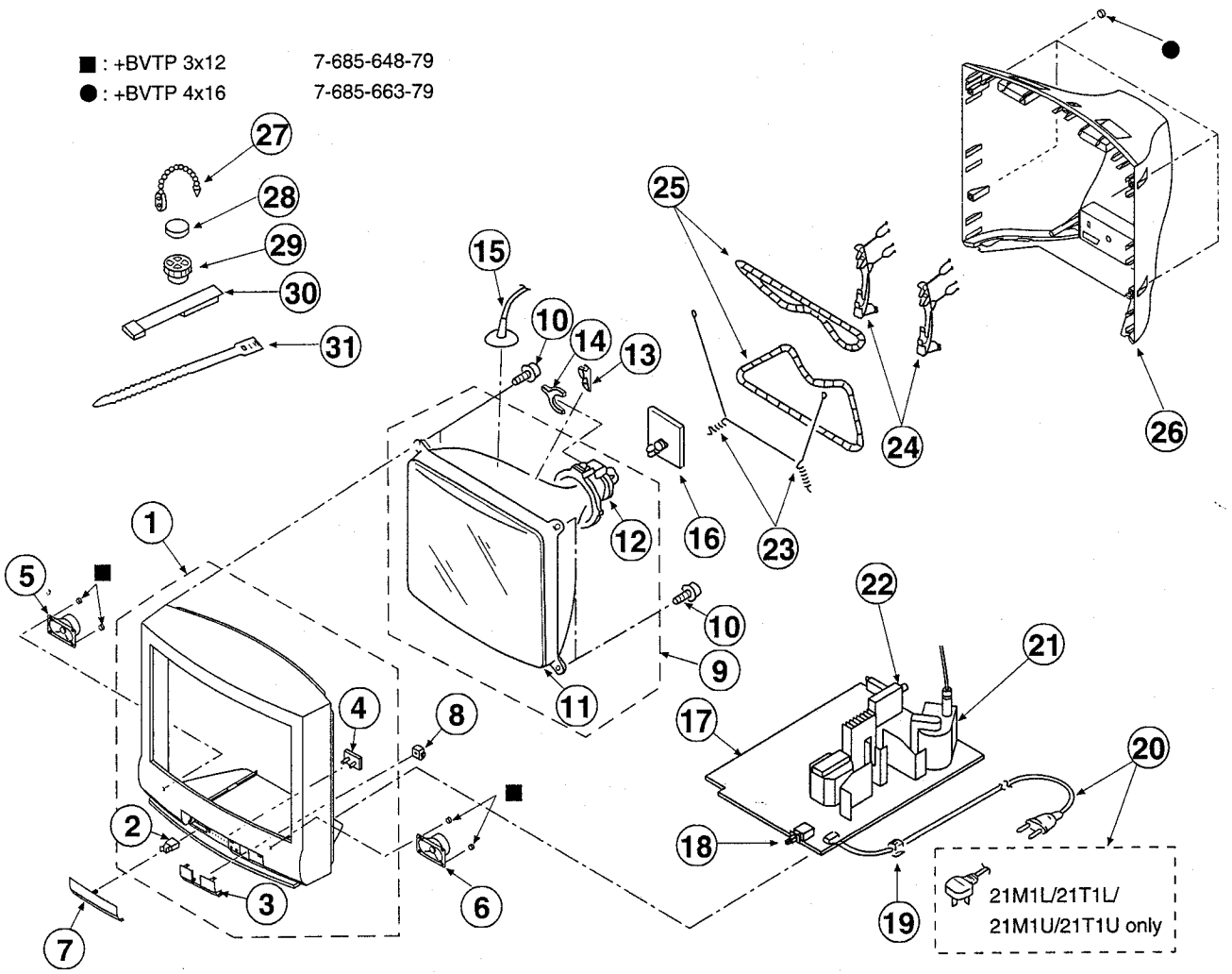
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

6-1. CHASSIS

■ : +BVTP 3x12 7-685-648-79
● : +BVTP 4x16 7-685-663-79



REF NO	PART NO	DESCRIPTION	REMARK
1	X-4200-265-1	BEZNET ASSY	2-4
2	4-047-464-01	CATCHER, PUSH	
3	4-203-432-01	WINDOW	
4	*4-203-431-01	GUIDE, LIGHT	
5	1-504-899-11	SPEAKER (9X5CM) (KV-21M1K/21T1K/21T1R)	
6	1-503-258-21	SPEAKER (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/ 21M1E/21T1E/21M1L/21T1L/21M1U/21T1U)	
	1-504-899-11	SPEAKER (9X5CM) (KV-21M1K/21T1K/21T1R)	
7	4-203-430-01	DOOR (BARE) (KV-21M1A/21M1D/21M1E/ 21M1K/21M1L/21M1U)	
	4-203-435-21	DOOR (PRINTED) (KV-21T1A/21T1B/21T1D)	
	4-203-435-11	DOOR (PRINTED) (KV-21T1K/21T1L/21T1R 21T1U)	

REF NO	PART NO	DESCRIPTION	REMARK
8	4-203-433-01	BUTTON, POWER	
9	⚠ 8-738-786-70	TUBE	SW-V
10	4-036-190-01	SCREW (5), TAPPING	
11	⚠ 8-738-784-05	PICTURE TUBE (21IC2) (A51QXH22X)	
12	⚠ 8-451-495-45	DEFLECTION YOKE (A21PQ22BA)	
13	3-704-495-01	SPACER, DY	
14	1-452-277-00	MAGNET, BMC	
15	⚠ 1-540-006-22	CAP ASSY, HIGH-VOLTAGE	
16	*A-1638-074-A	C BOARD, COMPLETE	

The components identified by shading and marked ! are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ! sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF NO		PART NO	DESCRIPTION	REMARK
17		*A-1632-484-A	A BOARD, COMPLETE (KV-21M1A)	
		*A-1632-483-A	A BOARD, COMPLETE (KV-21T1A)	
		*A-1632-482-A	A BOARD, COMPLETE (KV-21M1B)	
		*A-1632-481-A	A BOARD, COMPLETE (KV-21T1B)	
		*A-1632-487-A	A BOARD, COMPLETE (KV-21M1D)	
		*A-1632-480-A	A BOARD, COMPLETE (KV-21T1D)	
		*A-1632-486-A	A BOARD, COMPLETE (KV-21M1E)	
		*A-1632-485-A	A BOARD, COMPLETE (KV-21T1E)	
		*A-1632-477-A	A BOARD, COMPLETE (KV-21M1K)	
		*A-1632-478-A	A BOARD, COMPLETE (KV-21T1K)	
		*A-1632-475-A	A BOARD, COMPLETE (KV-21M1L)	
		*A-1632-476-A	A BOARD, COMPLETE (KV-21T1L)	
		*A-1632-479-A	A BOARD, COMPLETE (KV-21T1R)	
		*A-1632-474-A	A BOARD, COMPLETE (KV-21M1U)	
		*A-1632-473-A	A BOARD, COMPLETE (KV-21T1U)	
18	⚠	1-571-433-21	SWITCH PUSH (AC POWER)	
19		*4-202-531-01	AC CORD LOCK (SC)	
20	⚠	1-690-270-21	CORD, POWER (WITH CONNECTOR) (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E/21M1K/21T1K/21T1R)	
	⚠	1-590-762-11	CORD, POWER (WITH PLUG) (KV-21M1L/21T1L/21M1U/21T1U)	
21	⚠	1-453-199-11	TRANSFORMER ASSY,FLYBACK (UX-1604A2)	
22		8-598-331-00	TUNER (BT-AC401) (KV-21M1A/21T1A/21M1E/21T1E/21M1K/21T1K)	
		1-693-310-11	TUNER (TELE4-002B) (KV-21M1B/21T1B/21M1D/21T1D/21T1R)	
		1-693-302-11	TUNER (UV1315) (KV-21M1L/21T1L)	
		8-598-333-00	TUNER (BT-AU601) (KV-21M1U/21T1U)	
23		4-369-318-21	SPRING, TENSION (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E)	
		4-200-433-01	SPRING, EXTENSION (KV-21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/21T1U)	
24		*4-386-622-11	BAND, DGC (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E)	
		*4-386-622-04	BAND, DGC (KV-21M1K/21T1K/21T1R/21M1U/21T1U)	
25	⚠	1-406-828-11	COIL, DEGAUSSING	
26		4-203-429-01	COVER (REAR) (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E)	
		4-203-437-01	COVER (REAR) (KV-21M1K/21T1K/21T1R/21M1U/21T1U)	
27		4-308-870-00	CLIP, LEAD WIRE	
28		1-452-032-00	MAGNET, DISK; 10MM Ø	
29		1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
30		X-4387-214-1	PERMALLOY ASSY, CORRECTION	
31		3-701-007-00	BAND, BINDING	

SECTION 7

ELECTRICAL PARTS LIST

When indicating parts by reference number, please include the board name.

CAPACITORS
MF : mF, PF : mmF

COILS
MMH : mH, μH : mH

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

A

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1632-484-A	A BOARD, COMPLETE (KV-21M1A)	
		**********	
	*A-1632-483-A	A BOARD, COMPLETE (KV-21T1A)	
		**********	
	*A-1632-482-A	A BOARD, COMPLETE (KV-21M1B)	
		**********	
	*A-1632-481-A	A BOARD, COMPLETE (KV-21T1B)	
		**********	
	*A-1632-487-A	A BOARD, COMPLETE (KV-21M1D)	
		**********	
	*A-1632-480-A	A BOARD, COMPLETE (KV-21T1D)	
		**********	
	*A-1632-486-A	A BOARD, COMPLETE (KV-21M1E)	
		**********	
	*A-1632-485-A	A BOARD, COMPLETE (KV-21T1E)	
		**********	
	*A-1632-477-A	A BOARD, COMPLETE (KV-21M1K)	
		**********	
	*A-1632-478-A	A BOARD, COMPLETE (KV-21T1K)	
		**********	
	*A-1632-475-A	A BOARD, COMPLETE (KV-21M1L)	
		**********	
	*A-1632-476-A	A BOARD, COMPLETE (KV-21T1L)	
		**********	
	*A-1632-479-A	A BOARD, COMPLETE (KV-21T1R)	
		**********	
	*A-1632-474-A	A BOARD, COMPLETE (KV-21M1U)	
		**********	
	*A-1632-473-A	A BOARD, COMPLETE (KV-21T1U)	
		**********	
	4-201-023-11	SPACER, INSULATING	
	4-202-373-01	SPRING, IC	
	4-382-854-11	SCREW (M3X10), P, SW (+)	
		< CAPACITOR >	
C001	1-163-105-00	CERAMIC CHIP 33PF 5%	50V
C002	1-163-105-00	CERAMIC CHIP 33PF 5%	50V
C004	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C005	1-126-964-11	ELECT 10MF 20%	50V
C006	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C007	1-130-777-00	FILM 0.1MF 5%	63V
C008	1-126-965-11	ELECT 22MF 20%	50V
C010	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C011	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C012	1-163-031-11	CERAMIC CHIP 10000PF	50V
C014	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C015	1-126-964-11	ELECT 10MF 20%	50V
C016	1-164-005-11	CERAMIC CHIP 0.47MF	16V
		(KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/ 21M1E/21T1E/21M1L/21T1L/21M1K/21T1K/ 21M1U/21T1U)	
C017	1-164-005-11	CERAMIC CHIP 0.47MF	16V
		(KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/ 21M1E/21T1E/21M1L/21T1L/21M1K/21T1K/ 21M1U/21T1U)	
C019	1-124-903-11	ELECT 1MF 20%	50V
C020	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C021	1-163-059-00	CERAMIC CHIP 0.01MF	50V
C022	1-124-903-11	ELECT 1MF 20%	50V
C024	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C025	1-107-884-11	ELECT 1000MF 20%	16V
C026	1-126-925-11	ELECT 470MF 20%	10V
C027	1-163-038-00	CERAMIC CHIP 100000PF	25V
C028	1-163-055-00	CERAMIC CHIP 0.0047MF 10%	50V
C029	1-163-009-11	CERAMIC CHIP 1000PF 10%	50V
C030	1-164-232-11	CERAMIC CHIP 0.01MF 10%	50V
C031	1-163-009-11	CERAMIC CHIP 1000PF 5%	25V
C034	1-136-157-00	FILM 0.022MF 5%	50V
C036	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C101	1-164-005-11	CERAMIC CHIP 0.47MF	16V
C102	1-164-005-11	CERAMIC CHIP 0.47MF	16V
C103	1-164-005-11	CERAMIC CHIP 0.47MF	16V
C104	1-164-232-11	CERAMIC CHIP 0.01MF 10%	50V
			(KV-21M1B/21T1B)
C106	1-164-326-91	CERAMIC CHIP MF %	V
			(KV-21M1K/21T1K/21T1R)
C107	1-164-326-91	CERAMIC CHIP MF %	V
			(KV-21M1K/21T1K/21T1R)
C109	1-163-038-00	CERAMIC CHIP 0.1MF	25V
			(KV-21M1B/21T1B)
C110	1-164-232-11	CERAMIC CHIP 0.01MF 10%	50V
			(KV-21M1B/21T1B)
C112	1-137-399-11	FILM 0.1MF 5%	50V
			(KV-21M1B/21T1B)
C114	1-136-169-00	FILM 0.22MF 5%	50V
		(KV-21M1A/21T1A/21M1D/21T1D/21M1E/21T1E/ 21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/ 21T1U)	
	1-136-165-00	FILM 0.1MF 5%	50V
			(KV-21M1B/21T1B)
C116	1-124-925-11	ELECT 2.2MF 20%	50V
			(KV-21M1B/21T1B)

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REF.NO.	PART NO.	DESCRIPTION	REMARK
C117	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
C120	1-126-926-11	ELECT 1000MF 20% 10V (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D)	
	1-126-925-11	ELECT 470MF 20% 10V (KV-21M1E/21T1E/21M1K/21T1K/21M1L/21T1L/ 21T1R/21M1U/21T1U)	
C121	1-136-153-00	FILM 0.01MF 5% 50V	
C122	1-164-665-11	CERAMIC CHIP 0.039MF 10% 50V	
C123	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C124	1-164-665-11	CERAMIC CHIP 0.039MF 10% 50V	
C126	1-126-967-11	ELECT 47MF 20% 16V	
C127	1-126-965-11	ELECT 22MF 20% 50V	
C131	1-163-141-00	CERAMIC CHIP 0.001MF 5% 50V (KV-21M1K/21T1K/21T1R)	
C134	1-163-463-91	CERAMIC CHIP MF % V (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/ 21M1E/21T1E)	
C138	1-124-925-11	ELECT 2.2MF 20% 50V	
C139	1-124-925-11	ELECT 2.2MF 20% 50V	
C140	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C141	1-126-965-11	ELECT 22MF 20% 50V	
C147	1-164-665-11	CERAMIC CHIP 0.039MF 10% 50V	
C149	1-163-101-00	CERAMIC CHIP 22PF 5% 50V	
C150	1-163-101-00	CERAMIC CHIP 22PF 5% 50V	
C151	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V (KV-21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/ 21T1U)	
C152	1-126-964-11	ELECT 10MF 20% 50V	
C153	1-163-097-00	CERAMIC CHIP 15PF 5% 50V (KV-21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/ 21T1U)	
C154	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C155	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C157	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C158	1-126-963-11	ELECT 4.7MF 20% 50V	
C161	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V (KV-21M1B/21T1B)	
C162	1-126-967-11	ELECT 47MF 20% 16V	
C164	1-162-638-11	CERAMIC CHIP 1MF 16V (KV-21M1B/21T1B)	
C165	1-126-967-11	ELECT 47MF 20% 16V	
C166	1-126-933-11	ELECT 100MF 20% 10V (KV-21M1B/21T1B)	
C168	1-163-205-00	CERAMIC CHIP 0.001MF 10% 50V	
C169	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	
C170	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C200	1-163-059-00	CERAMIC CHIP 0.01MF 50V	
C300	1-126-934-11	ELECT 220MF 20% 16V	
C301	1-163-077-00	CERAMIC CHIP 0.1MF 10% 25V	
C302	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
C303	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
C304	1-163-059-91	CERAMIC CHIP 0.01MF 10% 50V	
C305	1-124-925-11	ELECT 2.2MF 20% 50V	
C306	1-136-164-00	FILM 0.082MF 5% 50V	
C307	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C308	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C309	1-126-963-11	ELECT 4.7MF 20% 50V	
C310	1-163-077-00	CERAMIC CHIP 0.1MF 10% 25V	
C312	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C313	1-163-007-11	CERAMIC CHIP 0.0015MF 10% 50V	
C314	1-163-077-00	CERAMIC CHIP 0.1MF 50V	
C315	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C316	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C317	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C318	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C319	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C320	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C321	1-126-963-11	ELECT 4.7MF 20% 50V	
C322	1-163-099-00	CERAMIC CHIP 18PF 5% 50V (KV-21M1K/21T1K/21T1R)	
C323	1-163-163-00	CERAMIC CHIP 18PF 5% 50V	
C324	1-163-119-00	CERAMIC CHIP 120PF 5% 50V	
C325	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C326	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C327	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
C328	1-163-035-00	CERAMIC CHIP 0.047MF 50V	
C329	1-163-016-00	CERAMIC CHIP 0.0039MF 10% 50V	
C330	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C332	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C333	1-163-033-91	CERAMIC CHIP 0.022MF 50V	
C335	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C336	1-162-638-11	CERAMIC CHIP 1MF 16V	
C337	1-162-638-11	CERAMIC CHIP 1MF 16V	
C338	1-126-965-11	ELECT 22MF 20% 50V	
C339	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C340	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C341	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C344	1-126-967-11	ELECT 47MF 20% 50V	
C345	1-163-139-00	CERAMIC CHIP 820PF 10% 50V	
C347	1-163-059-91	CERAMIC CHIP 0.01MF 10% 50V	
C348	1-163-031-11	CERAMIC CHIP 0.01MF 50V (KV-21M1B/21T1B)	
C349	1-126-965-11	ELECT 22MF 20% 50V (KV-21M1B/21T1B)	
C350	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C353	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C354	1-163-197-00	CERAMIC CHIP 470PF 10% 50V	
C355	1-163-059-11	CERAMIC CHIP 0.01MF 50V	
C358	1-164-232-11	CERAMIC CHIP 0.01MF 10% 100V	
C359	1-126-964-11	ELECT 10MF 20% 50V	
C360	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C401	1-126-967-11	ELECT 47MF 20% 16V	
C402	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	
C404	1-164-346-00	CERAMIC CHIP 1MF 16V	
C405	1-164-222-11	CERAMIC CHIP 0.22MF 25V	
C406	1-126-963-11	ELECT 4.7MF 20% 50V	
C407	1-104-666-11	ELECT 220MF 20% 25V	
C408	1-126-941-11	ELECT 470MF 20% 25V	
C409	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
C410	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C412	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C413	1-126-963-11	ELECT 4.7MF 20% 50V	
C414	1-216-295-00	METAL GLAZE 0 5% 1/10W	
C415	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	
C417	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C501	1-126-963-11	ELECT 4.7MF 20% 50V	
C502	1-163-077-00	CERAMIC CHIP 0.1MF 50V	
C503	1-126-952-11	ELECT 1000MF 20% 35V	
C504	1-126-968-11	ELECT 100MF 20% 50V	
C505	1-126-941-11	ELECT 470MF 20% 25V	

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

A

REF.NO.		PART NO.	DESCRIPTION		REMARK
C506		1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C507		1-124-903-11	ELECT 1MF	20%	50V
C508		1-130-785-11	MYLAR 0.47MF	10%	100V
C509		1-163-035-00	CERAMIC CHIP 0.047MF		50V
C510		1-163-011-11	CERAMIC CHIP 0.0015MF	10%	50V
C600		1-126-967-11	ELECT 47MF	20%	50V
C601	⚠	1-136-516-12	FILM 0.1MF	20%	300V
C602	⚠	1-136-516-12	FILM 0.1MF	20%	300V
C603	⚠	1-161-964-91	CERAMIC 0.0047MF		250V
C604	⚠	1-161-964-91	CERAMIC 0.0047MF		250V
C606		1-113-473-11	CAP, ELECT 180MF		
C607		1-104-666-11	ELECT 220MF	20%	25V
C608		1-126-964-11	ELECT 10MF	20%	50V
C609		1-109-921-11	CERAMIC 0.0015MF	10%	500V
C610		1-104-665-11	ELECT 100MF	20%	25V
C611		1-126-964-11	ELECT 10MF	20%	50V
C612	⚠	1-113-907-51	CERAMIC 0.0022MF	20%	250V
C613	⚠	1-113-907-51	CERAMIC 0.0022MF	20%	250V
C614		1-136-538-11	FILM 0.001MF	3%	2KV
C615		1-163-031-11	CERAMIC CHIP 0.01MF		50V
C618		1-162-116-00	CERAMIC 680PF	10%	2KV
C619		1-102-228-00	CERAMIC 470PF	10%	500V
C620		1-124-347-00	ELECT 100MF	20%	160V
C621		1-126-942-61	ELECT 1000MF	20%	25V
C622		1-111-041-11	ELECT 0.001F	20%	16V
C625		1-163-081-00	CERAMIC CHIP 0.22MF		25V
C626		1-104-661-91	ELECT 330MF	20%	16V
C627		1-126-933-11	ELECT 100MF	20%	16V
C628	⚠	1-161-964-91	CERAMIC 0.0047MF		250V
C800		1-107-642-91	ELECT 3.3MF	20%	200V
C801		1-129-746-00	FILM 0.039MF	10%	400V
C803		1-136-109-00	FILM 0.68MF	5%	200V
C804		1-124-902-00	ELECT 0.47MF	20%	50V
C806		1-102-244-00	CERAMIC 220PF	10%	500V
C807		1-107-651-11	ELECT 4.7MF	20%	250V
C808		1-136-079-00	FILM 0.01MF	3%	2KV
C809		1-161-754-00	CERAMIC 0.001MF	10%	2KV
C810		1-129-702-00	FILM 0.001MF	10%	400V
C811		1-102-228-00	CERAMIC 470PF	10%	500V
C812		1-163-059-91	CERAMIC CHIP 0.01MF	10%	50V
C813		1-162-115-00	CERAMIC 330PF	10%	2KV
C814		1-136-159-00	FILM 0.033MF	5%	50V
C815		1-162-116-00	CERAMIC 680PF	10%	2KV
C816		1-162-114-00	CERAMIC 0.0047MF		2KV
C817		1-136-559-11	MYLAR 0.0047MF	10%	400V
C818		1-136-933-11	FILM 1MF	5%	100V
C819		1-162-318-11	CERAMIC 0.001MF	10%	500V
C820		1-126-951-11	ELECT 470MF	20%	35V
C822		1-104-696-11	FILM 0.015MF	10%	100V
C823		1-106-375-12	MYLAR 0.022MF	10%	250V
C824		1-106-367-00	MYLAR 0.01MF	10%	400V
C827		1-164-182-11	CERAMIC CHIP 0.0033MF	10%	50V
C828		1-124-903-11	ELECT 1MF	20%	50V

< FILTER >

CF101	1-404-801-11	TRAP, CERAMIC (KV-21M1A/21T1A/21M1D/21T1D/21M1E/21T1E/21M1K/21T1K/21T1R)	
	1-409-430-11	TRAP, CERAMIC (KV-21M1B/21T1B)	
	1-409-429-11	TRAP, CERAMIC (KV-21M1L/21T1L/21M1U/21T1U)	
CF102	1-409-327-00	TRAP, CERAMIC (6.5 MHz) (KV-14E1K/21T1K/21T1R)	
CF103	1-760-106-11	FILTER, CERAMIC (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E/21M1K/21T1K/21T1R)	
	1-567-100-00	FILTER, CERAMIC (KV-21M1L/21T1L/21M1U/21T1U)	
CF104	1-567-101-11	FILTER, CERAMIC (KV-14E1K/21T1K/21T1R)	
CF105	1-760-154-11	TRAP, CERAMIC (KV-21M1B/21T1B/21M1U/21T1U)	
SWF101	1-579-120-11	FILTER, SURFACE WAVE (KV-21M1A/21T1A/21M1D/21T1D/21M1E/21T1E)	
	1-579-273-11	FILTER, SURFACE WAVE (KV-21M1B/21T1B)	
	1-579-414-11	FILTER, SURFACE WAVE (KV-21M1K/21T1K/21T1R)	
	1-760-711-11	FILTER, SURFACE WAVE (KV-21M1L/21T1L/21M1U/21T1U)	
SWF102	1-760-722-11	FILTER, SURFACE WAVE (KV-21M1B/21T1B)	

< CONNECTOR >

CN001	*1-564-508-11	PLUG, CONNECTOR 5P	
CN201	*1-564-506-11	PLUG, CONNECTOR 3P (KV-21M1A/21T1A/21M1B/21T1B/21T1D/21M1E/21T1E/21M1L/21T1L/21M1U/21T1U)	
	*1-564-507-11	PLUG, CONNECTOR 4P (KV-21M1D/21M1K/21T1K/21T1R)	
CN601	⚠ *1-580-844-11	PIN, CONNECTOR (POWER)	
CN602	⚠ 1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E)	
CN603	⚠ 1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
CN801	*1-580-798-11	CONNECTOR PIN (DY) 6P	
CNA81	*1-568-881-51	PIN, CONNECTOR 6P	
CNA82	*1-568-880-51	PIN, CONNECTOR 5P	

< DIODE >

D001	8-719-057-56	DIODE LS5360HL	
D002	8-759-157-40	DIODE µPC574J	
D003	8-719-109-89	DIODE RD5.6ESB2	
D004	8-719-109-85	DIODE RD5.1ES-B2	
D005	8-719-991-33	DIODE 1SS133T-77	
D006	8-719-991-33	DIODE 1SS133T-77	
D014	8-719-991-33	DIODE 1SS133T-77	
D100	8-719-991-33	DIODE 1SS133T-77	
D102	8-719-903-27	DIODE 1SS238-TPA7 (KV-21M1B/21T1B)	
D104	8-719-903-27	DIODE 1SS238-TPA7 (KV-21M1B/21T1B)	
D105	8-719-991-33	DIODE 1SS133T-77 (KV-21M1K/21T1K/21T1R)	
D106	8-719-991-33	DIODE 1SS133T-77 (KV-21M1K/21T1K/21T1R)	
D107	8-719-991-33	DIODE 1SS133T-77	
D109	8-719-820-71	DIODE 1SV214 (KV-21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/21T1U)	
D301	8-719-991-33	DIODE 1SS133T-77	
D302	8-719-991-33	DIODE 1SS133T-77	
D305	1-249-412-11	CARBON 390 5% 1/4W	
D307	8-719-991-33	DIODE 1SS133T-77 (KV-21M1B/21T1B)	
D308	8-719-991-33	DIODE 1SS133T-77 (KV-21M1B/21T1B)	
D310	8-719-991-33	DIODE 1SS133T-77	

The components identified by shading and marked ! are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ! sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

A

REF.NO.	PART NO.	DESCRIPTION	REMARK
D315	8-719-991-33	DIODE 1SS133T-77	
D401	8-719-109-97	DIODE RD6.8ES-B2	
D402	8-719-109-97	DIODE RD6.8ES-B2	
D403	8-719-109-97	DIODE RD6.8ES-B2	
D404	8-719-109-97	DIODE RD6.8ES-B2	
D405	8-719-109-97	DIODE RD6.8ES-B2	
D406	8-719-109-97	DIODE RD6.8ES-B2	
D407	8-719-109-97	DIODE RD6.8ES-B2	
D408	8-719-109-97	DIODE RD6.8ES-B2	
D409	8-719-991-33	DIODE 1SS133T-77	
D410	8-719-109-97	DIODE RD6.8ES-B2	
D412	8-719-109-97	DIODE RD6.8ES-B2	
D414	8-719-991-33	DIODE 1SS133T-77	
D501	8-719-302-43	DIODE EL1Z	
D600	8-719-991-33	DIODE 1SS133T-77	
D601	8-719-046-77	DIODE EM1-V1	
D602	8-719-312-61	DIODE EU-1Z	
D603	8-719-046-78	DIODE EG-1Z-V1	
D604	8-719-312-61	DIODE EU-1Z	
D605	8-719-312-61	DIODE EU-1Z	
D606	8-719-979-85	DIODE EGP20G	
D607	8-719-302-43	DIODE EL1Z	
D608	8-719-980-78	DIODE ERA83-006	
D610	8-719-025-88	DIODE GBU4JL-6088	
D611	8-719-991-33	DIODE 1SS133T-77	
D613	8-719-109-89	DIODE RD5.6ESB2	
D614	8-719-109-89	DIODE RD5.6ESB2	
D801	8-719-950-57	DIODE BYD33G	
D802	8-719-302-43	DIODE EL1Z	
D803	8-719-945-80	DIODE ERC06-15S	
D804	8-719-028-72	DIODE RGP02-17EL-6433	
D805	8-719-928-08	DIODE ERD28-08S	
D806	8-719-302-43	DIODE EL1Z	
D807	8-719-991-33	DIODE 1SS133T-77	
D809	8-719-302-43	DIODE EL1Z	
		< FUSE >	
F601	⚠ 1-576-231-11	FUSE (H.B.C.) 4A, 250V	
	⚠ 1-533-725-11	HOLDER, FUSE ; F601 (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E)	
	⚠ 1-533-230-12	HOLDER, FUSE ; F601 (KV-21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/21T1U)	
		< FERRITE BEAD >	
FB001	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
FB002	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
FB601	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
FB603	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
FB604	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
FB605	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB801	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
		< IC >	
IC001	8-759-368-69	IC SAA5288ZP/014 (KV-21M1A/21M1B/21M1D/21M1E/21M1K/21M1L/21M1U)	
	8-759-368-23	IC SAA5290ZP/014 (KV-21T1A/21T1B/21T1D/21T1E/21T1K/21T1L/21T1R/21T1U)	
IC002	8-759-280-74	IC ST24C02CB1	
IC003	8-747-905-11	IC SBX1790-51	
IC101	8-759-333-19	IC TDA9806 (KV-21M1A/21T1A/21M1D/21T1D/21M1E/21T1E/21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/21T1U)	
	8-759-333-17	IC TDA9812 (KV-21M1B/21T1B)	
IC301	8-759-333-44	IC MC44007P (KV-21M1A/21T1A/21M1E/21T1E/21M1L/21T1L/21M1U/21T1U)	
	8-759-333-45	IC MC44002P (KV-21M1B/21T1B/21M1D/21T1D/21M1K/21T1K/21T1R)	
IC302	8-759-333-46	IC MC44140P	
IC401	8-759-041-82	IC TDA1013B	
IC501	8-759-192-7[illegible]	IC STV9379	
IC601	8-749-011-02	IC STR-S5706	
IC603	8-759-337-99	IC TDA8139	
		< SOCKET >	
J201	1-568-267-21	JACK	
J401	1-561-534-00	SOCKET, PIN 21P	
J1401	1-778-054-11	JACK PIN	
		< COIL >	
L101	1-410-669-31	INDUCTOR 33UH	
L105	1-408-411-00	INDUCTOR 15UH	
L108	1-408-408-00	INDUCTOR 8.2UH (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E/21M1L/21T1L/21M1U/21T1U)	
	1-408-405-00	INDUCTOR 4.7UH (KV-21M1K/21T1K/21T1R)	
L109	1-403-686-12	COIL	
L110	1-410-673-41	INDUCTOR 68UH	
L111	1-410-665-31	INDUCTOR 15UH (KV-21M1B/21T1B)	
L112	1-408-417-00	INDUCTOR 47UH	
L113	1-410-985-11	INDUCTOR CHIP 0.22UH	
L201	1-412-531-31	INDUCTOR 33UH	
L401	1-408-409-00	INDUCTOR 10UH	
L602	1-408-609-41	INDUCTOR 33UH	
L603	1-410-669-31	INDUCTOR 33UH	
L604	1-408-417-00	INDUCTOR 47UH	
L800	1-412-553-11	INDUCTOR 3.3MMH	
L801	1-420-872-00	COIL,AIR-CORE	
L802	1-407-365-00	COIL,CHOKE (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E)	
	1-411-635-11	COIL,AIR-CORE (KV-21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/21T1U)	
L803	1-459-390-00	COIL (WITH CORE)	
L804	1-459-105-21	COIL (WITH CORE)	
L805	1-412-531-31	INDUCTOR 33UH	
L806	1-459-652-12	HLC	
		< IC LINK >	
PS602	⚠ 1-532-686-91	LINK, IC 2.7A (ICP-F75)	
PS603	⚠ 1-532-686-91	LINK, IC 2.7A (ICP-F75)	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
		< TRANSISTOR >	
Q001	8-729-922-66	TRANSISTOR 2SC2410SN	
Q002	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q005	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q006	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q007	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q008	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q009	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q010	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q011	8-729-900-89	TRANSISTOR DTC144ES	
Q012	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q013	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q014	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q015	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q016	8-729-216-22	TRANSISTOR 2SC1162-G	
Q100	8-729-901-01	TRANSISTOR DTC144EK	
Q101	8-729-900-80	TRANSISTOR DTC114ES (KV-21M1B/21T1B)	
Q102	8-729-900-80	TRANSISTOR DTC114ES (KV-21M1B/21T1B)	
Q103	8-729-900-80	TRANSISTOR DTC114ES (KV-21M1B/21T1B)	
Q105	8-729-901-01	TRANSISTOR DTC144EK	
Q107	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q109	8-729-022-54	TRANSISTOR 2SC3779C,D-AA (KV-21M1B/21T1B)	
Q111	8-729-900-89	TRANSISTOR DTC144ES (KV-21M1K/21T1K/21T1R)	
Q112	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q113	8-729-900-89	TRANSISTOR DTC144ES (KV-21M1K/21T1K/21T1R)	
Q114	8-729-901-01	TRANSISTOR DTC144EK	
Q115	8-729-026-41	TRANSISTOR 2SA933AS-RT (KV-21M1B/21T1B)	
Q116	8-729-900-89	TRANSISTOR DTC144ES (KV-21M1B/21T1B)	
Q300	8-729-900-80	TRANSISTOR DTC114ES	
Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q302	8-729-900-80	TRANSISTOR DTC114ES	
Q303	8-729-900-80	TRANSISTOR DTC114ES	
Q304	8-729-900-80	TRANSISTOR DTC114ES	
Q305	8-729-900-80	TRANSISTOR DTC114ES	
Q306	8-729-900-80	TRANSISTOR DTC114ES	
Q307	8-729-026-41	TRANSISTOR 2SA933AS-RT (KV-21M1B/21T1B)	
Q308	8-729-901-01	TRANSISTOR DTC144EK (KV-21M1B/21T1B/21M1D/21T1D/21M1K/21T1K/21T1R)	
Q401	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q402	8-729-216-22	TRANSISTOR 2SA1162-G	
Q403	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q404	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q600	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q602	8-729-900-65	TRANSISTOR DTA144ES	
Q801	8-729-140-96	TRANSISTOR 2SD774-34	
Q802	8-729-033-85	TRANSISTOR S2000N-16E305A	
Q803	8-729-900-89	TRANSISTOR DTC144ES	
Q804	8-729-019-01	TRANSISTOR 2SD2394-EF	
Q805	8-729-119-78	TRANSISTOR 2SC2785-HFE	
		< RESISTOR >	
JR003	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR004	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR007	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR008	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR009	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR011	1-216-295-00	METAL GLAZE 0 5% 1/10W (KV-21M1B/21T1B)	
JR012	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR013	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR014	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR015	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR017	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR018	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR019	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR021	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR022	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR023	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR027	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR028	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR029	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR030	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR031	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR032	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR034	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR035	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JW101	1-249-413-11	CARBON 470 5% 1/4W	
R001	1-216-198-91	METAL GLAZE 1K 5% 1/8W	
R002	1-216-033-00	METAL GLAZE 2.2K 5% 1/10W	
R005	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R006	1-216-089-00	METAL GLAZE 47K 5% 1/10W (KV-21M1A/21T1A/21M1E/21T1E/21M1L/21T1L/21M1U/21T1U)	
	1-216-085-00	METAL GLAZE 33K 5% 1/10W (KV-21M1B/21T1B/21M1D/21T1D/21M1K/21T1K/21T1R)	
R008	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R009	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R010	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R011	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R012	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R013	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R014	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R015	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R016	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R017	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R018	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R019	1-216-174-00	METAL GLAZE 100 5% 1/8W	
R020	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R021	1-216-174-00	METAL GLAZE 100 5% 1/8W	
R022	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R024	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R025	1-216-222-00	METAL GLAZE 10K 5% 1/8W	
R026	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R027	1-216-206-00	METAL GLAZE 2.2K 5% 1/8W	
R028	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R029	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R030	1-215-900-11	METAL OXIDE 22K 5% 2W F	
R031	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R032	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R033	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R034	1-249-429-11	CARBON 10K 5% 1/4W	
R035	1-247-863-91	CARBON 22K 5% 1/4W	
R036	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R037	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R039	1-216-089-00	METAL GLAZE 47K 5% 1/10W	

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R040	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R042	1-216-230-00	METAL GLAZE	22K	5%	1/8W
R044	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R045	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R046	1-216-105-91	METAL GLAZE	220K	5%	1/10W
R047	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R048	1-216-174-00	METAL GLAZE	100	5%	1/8W
R049	1-216-041-00	METAL GLAZE	470	5%	1/10W
R052	1-216-238-91	METAL GLAZE	47K	5%	1/8W
R055	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R060	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R061	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R062	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R063	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R064	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R065	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R066	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R067	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R068	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R069	1-247-863-91	CARBON	22K	5%	1/4W
R070	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R071	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R072	1-216-230-00	METAL GLAZE	22K	5%	1/8W
R073	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R074	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R075	1-249-436-11	CARBON	39K	5%	1/4W
R078	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R079	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R080	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R081	1-249-438-11	CARBON	56K	5%	1/4W
R088	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R089	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R090	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R091	1-249-427-11	CARBON	6.8K	5%	1/4W
R093	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R094	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R095	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R096	1-216-033-00	METAL GLAZE	220	5%	1/10W
R097	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R098	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R099	1-216-200-11	METAL GLAZE	1.2K	5%	1/8W
R102	1-216-234-00	METAL GLAZE	33K	5%	1/8W
R104	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W (KV-21M1B/21T1B)
R105	1-216-025-00	METAL GLAZE	100	5%	1/10W (KV-21M1B/21T1B)
R106	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W (KV-21M1B/21T1B)
R107	1-216-017-91	METAL GLAZE	47	5%	1/10W (KV-21M1B/21T1B)
R108	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R109	1-216-025-00	METAL GLAZE	100	5%	1/10W (KV-21M1B/21T1B)
R110	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R111	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R112	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W (KV-21M1B/21T1B)
R113	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W (KV-21M1B/21T1B)
R114	1-216-073-00	METAL GLAZE	10K	5%	1/10W (KV-21M1B/21T1B)

REF.NO.	PART NO.	DESCRIPTION			REMARK
R115	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W (KV-21M1B/21T1B)
R116	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R117	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R118	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R122	1-216-029-00	METAL GLAZE	150	5%	1/10W
R123	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R124	1-216-025-00	METAL GLAZE	100	5%	1/10W
R125	1-216-025-00	METAL GLAZE	100	5%	1/10W
R126	1-216-025-00	METAL GLAZE	100	5%	1/10W
R127	1-216-180-00	METAL GLAZE	180	5%	1/8W
R128	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R133	1-249-429-11	CARBON	10K	5%	1/4W
R134	1-216-031-00	METAL GLAZE	180	5%	1/10W (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E/21M1K/21T1K/21T1R)
	1-216-029-11	METAL GLAZE	150	5%	1/10W (KV-21M1L/21T1L/21M1U/21T1U)
R136	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R137	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R138	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R141	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R142	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R143	1-216-295-00	METAL GLAZE	0	5%	1/10W
R144	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W (KV-21M1K/21T1K/21T1R)
R145	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W (KV-21M1K/21T1K/21T1R)
R146	1-216-043-91	METAL GLAZE	560	5%	1/10W
R147	1-216-043-91	METAL GLAZE	560	5%	1/10W (KV-21M1K/21T1K/21T1R)
R149	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W (KV-21M1K/21T1K/21T1R)
R151	1-216-097-00	METAL GLAZE	100K	5%	1/10W (KV-21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/21T1U)
R153	1-216-097-00	METAL GLAZE	100K	5%	1/10W (KV-21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/21T1U)
R154	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R155	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R157	1-216-049-00	METAL GLAZE	1K	5%	1/10W (KV-21M1B/21T1B)
R158	1-216-039-00	METAL GLAZE	390	5%	1/10W (KV-21M1A/21T1A/21M1D/21T1D/21M1E/21T1E/21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/21T1U)
	1-216-031-00	METAL GLAZE	180	5%	1/10W (KV-21M1B/21T1B)
R159	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R160	1-216-238-91	METAL GLAZE	47K	5%	1/8W
R161	1-216-295-00	METAL GLAZE	0	5%	1/10W (KV-21M1A/21T1A/21M1D/21T1D/21M1E/21T1E/21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/21T1U)
R162	1-216-017-91	METAL GLAZE	47	5%	1/10W (KV-21M1B/21T1B)
R163	1-249-407-11	CARBON	150	5%	1/4W
R167	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R168	1-249-407-11	CARBON	150	5%	1/4W

The components identified by shading and marked ! are critical for safety.
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Les composants identifies par une trame et une marque ! sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R169	1-216-073-00	METAL GLAZE	10K	5%	1/10W (KV-21M1B/21T1B)
R170	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W (KV-21M1B/21T1B)
R171	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W (KV-21M1B/21T1B)
R175	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R176	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R177	1-216-295-00	METAL GLAZE	0	5%	1/10W
R178	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R179	1-216-212-00	METAL GLAZE	3.9K	5%	1/8W
R180	1-216-049-00	METAL GLAZE	1K	5%	1/10W (KV-21M1B/21T1B)
R181	1-216-182-00	METAL GLAZE	220	5%	1/8W
R182	1-216-182-00	METAL GLAZE	220	5%	1/8W
R205	1-247-741-11	CARBON	150	5%	1/2W
R301	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R302	1-216-037-00	METAL GLAZE	330	5%	1/10W
R303	1-216-090-00	METAL GLAZE	51K	5%	1/10W
R304	1-216-025-00	METAL GLAZE	100	5%	1/10W
R305	1-216-025-00	METAL GLAZE	100	5%	1/10W
R306	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R307	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R308	1-216-234-00	METAL GLAZE	33K	5%	1/8W
R309	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R310	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R311	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R312	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R313	1-216-045-00	METAL GLAZE	680	5%	1/10W
R314	1-216-045-00	METAL GLAZE	680	5%	1/10W
R315	1-216-045-00	METAL GLAZE	680	5%	1/10W
R316	1-216-033-00	METAL GLAZE	220	5%	1/10W
R317	1-216-182-00	METAL GLAZE	220	5%	1/8W
R318	1-216-019-00	METAL GLAZE	56	5%	1/10W
R322	1-216-022-00	METAL GLAZE	75	5%	1/10W
R323	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R325	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R326	1-216-095-00	METAL GLAZE	82K	5%	1/10W (KV-21M1B/21T1B/21M1D/21T1D/21M1K/21T1K/21T1R)
R327	1-216-097-00	METAL GLAZE	100K	5%	1/10W (KV-21M1B/21T1B/21M1D/21T1D/21M1K/21T1K/21T1R)
R328	1-216-258-00	METAL GLAZE	330K	5%	1/8W
R330	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R333	1-216-037-00	METAL GLAZE	330	5%	1/10W
R334	1-216-025-71	METAL GLAZE	100	5%	1/10W
R335	1-216-295-00	METAL GLAZE	0	5%	1/10W
R336	1-216-296-00	METAL GLAZE	0	5%	1/8W
R337	1-216-295-00	METAL GLAZE	0	5%	1/10W
R339	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R340	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R341	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R342	1-216-186-00	METAL GLAZE	330	5%	1/8W
R343	1-216-295-00	METAL GLAZE	0	5%	1/10W
R344	1-216-295-00	METAL GLAZE	0	5%	1/10W
R345	1-216-238-91	METAL GLAZE	47K	5%	1/8W
R347	1-216-041-00	METAL GLAZE	470	5%	1/10W (KV-21M1B/21T1B)
R348	1-216-073-00	METAL GLAZE	10K	5%	1/10W (KV-21M1B/21T1B)
R349	1-216-105-91	METAL GLAZE	220K	5%	1/10W (KV-21M1B/21T1B)
R350	1-216-033-00	METAL GLAZE	220	5%	1/10W (KV-21M1B/21T1B)
R351	1-216-292-11	METAL GLAZE	8.2M	5%	1/8W (KV-21M1B/21T1B/21M1D/21T1D/21M1K/21T1K/21T1R)
R352	1-216-262-00	METAL GLAZE	470K	5%	1/8W
R353	1-247-804-11	CARBON	75	5%	1/4W
R354	1-216-025-00	METAL GLAZE	100	5%	1/10W
R355	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R356	1-216-119-00	METAL GLAZE	820K	5%	1/10W
R357	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R358	1-216-009-00	METAL GLAZE	22	5%	1/10W
R359	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R361	1-216-023-00	METAL GLAZE	82	5%	1/10W
R362	1-216-023-00	METAL GLAZE	82	5%	1/10W
R363	1-216-023-00	METAL GLAZE	82	5%	1/10W
R401	1-216-041-00	METAL GLAZE	470	5%	1/10W
R402	1-249-431-11	CARBON	15K	5%	1/4W
R403	1-249-431-11	CARBON	15K	5%	1/4W
R405	1-249-389-11	CARBON	4.7	5%	1/4W F
R406	1-216-091-00	METAL GLAZE	56K	5%	1/10W
R407	1-216-041-00	METAL GLAZE	470	5%	1/10W
R408	1-216-033-00	METAL GLAZE	220	5%	1/10W
R409	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R410	1-247-804-11	METAL GLAZE	75	5%	1/4W (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E/21M1K/21T1K/21T1R)
	1-247-698-11	METAL GLAZE	68	5%	1/4W (KV-21M1L/21T1L/21M1U/21T1U)
R411	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R412	1-216-105-91	METAL GLAZE	220K	5%	1/10W
R413	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R414	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R415	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R416	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R417	1-216-295-00	METAL GLAZE	0	5%	1/10W
R501	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R502	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R503	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R504	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R505	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R506	1-216-080-00	METAL GLAZE	20K	5%	1/10W
R507	1-216-350-11	METAL OXIDE	1.2	5%	1W F
R508	1-215-865-11	METAL OXIDE	220	5%	1W F
R509	1-249-387-11	CARBON	3.3	5%	1/4W F
R600	1-216-365-00	METAL OXIDE	0.47	5%	2W F
R601 ⚠	1-205-909-11	WIREWOUND	3.3	5%	10W
R603	1-215-858-11	METAL OXIDE	15	5%	1W F
R604	1-215-927-00	METAL OXIDE	47K	5%	3W F
R606	1-249-441-11	CARBON	100K	5%	1/4W
R607	1-216-366-00	METAL OXIDE	0.56	5%	2W F
R608	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R609	1-215-859-00	METAL OXIDE	22	5%	1W F
R610	1-249-419-11	CARBON	1.5K	5%	1/4W
R611	1-215-430-00	METAL	2.4K	1%	1/4W
R612 ⚠	1-202-719-91	SOLID	1M	10%	1/2W
R614 ⚠	1-218-265-21	METAL	8.2M	5%	1W
R615	1-217-418-61	FUSIBLE	0.47	10%	1/2W F

A C

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Replace only with the part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	REMARK
R617	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R618	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R620	1-215-479-00	METAL 270K 1% 1/4W	
R621	1-249-429-11	CARBON 10K 5% 1/4W	
R622	1-247-895-91	METAL GLAZE 470K 5% 1/4W	
R623	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R624	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R625	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R626	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R627	1-216-346-00	METAL OXIDE 0.56 5% 1W	F
R630	1-249-401-11	CARBON 47 5% 1/4W	
R800	1-215-887-00	METAL OXIDE 150 5% 2W	F
R801	1-247-891-00	CARBON 330K 5% 1/4W	
R802	1-247-807-31	CARBON 100 5% 1/4W	
R803	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R804	1-217-778-11	FUSIBLE 1K 5% 1W	F
R806	1-216-349-00	METAL OXIDE 1 5% 1W	F
R807	1-249-399-11	METAL GLAZE 33 5% 1/10W	
R808	1-202-833-11	SOLID 18K 10% 1/2W	
R810	1-247-895-91	CARBON 470K 5% 1/4W	
R811	1-215-890-11	METAL OXIDE 470 5% 2W	F
R812	1-215-869-11	METAL OXIDE 1K 5% 1W	F
R813	1-216-266-00	METAL GLAZE 680K 5% 1/8W	
R814	1-249-443-11	CARBON 0.47 5% 1/4W	F
R815	1-216-250-00	METAL GLAZE 150K 5% 1/8W	
R816	1-216-369-00	METAL OXIDE 1 5% 2W	F
R817	1-216-447-00	METAL OXIDE 27 5% 2W	F
R818	1-202-813-00	SOLID 22K 10% 1/2W	
R819	1-249-441-11	CARBON 100K 5% 1/4W	
R820	1-249-935-11	CARBON 3.3K 5% 1/4W	
R821	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R822	1-216-107-00	METAL GLAZE 270K 5% 1/10W	
R823	1-249-413-11	CARBON 470 5% 1/4W	F
R824	1-216-125-00	METAL GLAZE 1.5K 5% 1/10W	
R825	1-216-105-91	METAL GLAZE 220K 5% 1/10W	
R828	1-216-115-00	METAL GLAZE 560K 5% 1/10W	
R834	1-215-869-11	METAL OXIDE 1K 5% 1W	F
R835	1-249-413-11	CARBON 470 5% 1/4W	F
		< VARIABLE RESISTOR >	
RV102	1-241-765-11	RES, ADJ, METAL GLAZE 22K (KV-21M1B/21T1B)	
RV801	1-241-630-11	RES, ADJ, CARBON 10K	
		< SWITCH >	
S001	1-571-532-21	SWITCH, TACTIL	
S002	1-571-532-21	SWITCH, TACTIL	
S003	1-571-532-21	SWITCH, TACTIL	
S004	1-571-532-21	SWITCH, TACTIL	
S005	1-571-532-21	SWITCH, TACTIL	
S006	1-571-532-21	SWITCH, TACTIL	
S601	⚠ 1-571-433-21	SWITCH, PUSH (AC POWER)	
		< TRANSFORMER >	
T601	⚠ 1-427-962-11	TRANSFORMER, LINE FILTER	
T602	⚠ 1-429-207-11	TRANSFORMER, CONVERTER	
T801	1-437-090-31	HDT	
T802	⚠ 1-453-199-11	TRANSFORMER ASSY, FLYBACK (NX-1741/U2E)	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		< THERMISTOR >	
THP601	⚠ 1-808-[illegible]-31	THERMISTOR (POSITIVE) 059	
		< TUNER >	
TU101	8-598-331-00	TUNER (BT-AC401) (KV-21M1A/21T1A/21M1E/21T1E/21M1K/21T1K)	
	1-693-310-11	TUNER (TELE4-002B) (KV-21M1B/21T1B/21M1D/21T1D/21T1R)	
	1-693-302-11	TUNER (UV1315) (KV-21M1L/21T1L)	
	8-598-333-00	TUNER (BT-AU601) (KV-21M1U/21T1U)	
		< CRYSTAL >	
X001	1-578-774-11	VIBRATOR, CRYSTAL	
X301	1-760-907-21	VIBRATOR, CRYSTAL(KV-21M1K/21T1K/21T1R)	
X302	1-760-710-21	VIBRATOR, CRYSTAL	
		**********	
	*A-1638-074-A	C BOARD, COMPLETE **********	
		< CAPACITOR >	
C701	1-102-074-00	CERAMIC 0.001MF 10% 50V	
C702	1-102-117-00	CERAMIC CHIP 820PF 10% 50V	
C703	1-102-117-00	CERAMIC CHIP 820PF 10% 50V	
C704	1-102-824-00	CERAMIC CHIP 470PF 5% 50V	
C705	1-102-824-00	CERAMIC CHIP 470PF 5% 50V	
C706	1-102-824-00	CERAMIC CHIP 470PF 5% 50V	
C707	1-107-651-11	ELECT 4.7MF 20% 250V	
C709	1-162-114-00	CERAMIC 0.0047MF 2KV	
C710	1-126-967-11	ELECT 47MF 20% 16V	
C711	1-101-880-00	CERAMIC 47PF 5% 50V	
C712	1-101-880-00	CERAMIC 47PF 5% 50V	
C713	1-101-880-00	CERAMIC 47PF 5% 50V	
		< CONNECTOR >	
CNC71	*1-568-881-51	PIN, CONNECTOR 6P	
CNC72	*1-568-880-51	PIN, CONNECTOR 5P	
CNC73	1-695-915-21	TAB (CONTACT)	
CNC76	1-695-915-21	TAB (CONTACT)	
		< DIODE >	
D701	8-719-991-33	DIODE 1SS133T-77	
D702	8-719-991-33	DIODE 1SS133T-77	
D703	8-719-991-33	DIODE 1SS133T-77	
D704	8-719-991-33	DIODE 1SS133T-77	
D705	8-719-991-33	DIODE 1SS133T-77	
D706	8-719-991-33	DIODE 1SS133T-77	
D707	8-719-991-33	DIODE 1SS133T-77	
D708	8-719-991-33	DIODE 1SS133T-77	
D709	8-719-991-33	DIODE 1SS133T-77	
D716	8-719-991-33	DIODE 1SS133T-77	
D717	8-719-054-81	DIODE 1SS292	
D718	8-719-991-33	DIODE 1SS133T-77	
D719	8-719-054-81	DIODE 1SS292	
D723	8-719-991-33	DIODE 1SS133T-77	
D724	8-719-054-81	DIODE 1SS292	
		< CRT SOCKET >	
J701	⚠ 1-526-990-21	SOCKET, CRT	

The components identified by shading and marked ! are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ! sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

C

REF.NO.	PART NO.	DESCRIPTION				REMARK
		< TRANSISTOR >				
Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q704	8-729-906-70	TRANSISTOR BF871-127				
Q705	8-729-906-70	TRANSISTOR BF871-127				
Q706	8-729-906-70	TRANSISTOR BF871-127				
Q707	8-729-200-17	TRANSISTOR 2SA1091-O				
Q708	8-729-200-17	TRANSISTOR 2SA1091-O				
Q709	8-729-200-17	TRANSISTOR 2SA1091-O				
		< RESISTOR >				
R700	1-260-087-81	CARBON	100	5%	1/2W	
R701	1-249-417-11	CARBON	1K	5%	1/4W	
R702	1-249-417-11	CARBON	1K	5%	1/4W	
R705	1-247-791-91	CARBON	22	5%	1/4W	
R706	1-247-791-91	CARBON	22	5%	1/4W	
R707	1-247-791-91	CARBON	22	5%	1/4W	
R708	1-247-815-91	CARBON	220	5%	1/4W	
R709	1-247-815-91	CARBON	220	5%	1/4W	
R710	1-247-815-91	CARBON	220	5%	1/4W	
R711	1-249-417-11	CARBON	1K	5%	1/4W	
R714	1-249-417-11	CARBON	1K	5%	1/4W	
R715	1-249-417-11	CARBON	1K	5%	1/4W	
R716	1-249-417-11	CARBON	1K	5%	1/4W	
R717	1-247-758-11	CARBON	3.3K	5%	1/2W	
R718	1-247-758-11	CARBON	3.3K	5%	1/2W	
R719	1-247-758-11	CARBON	3.3K	5%	1/2W	
R720	1-216-487-11	METAL OXIDE	12K	5%	3W	F
R721	1-216-487-11	METAL OXIDE	12K	5%	3W	F
R722	1-216-487-11	METAL OXIDE	12K	5%	3W	F
R724	1-202-814-91	SOLID	33K	10%	1/2W	
R725	1-202-846-00	SOLID	470K	10%	1/2W	
R726	1-202-844-00	SOLID	330K	10%	1/2W	
R727	1-202-848-00	SOLID	680K	10%	1/2W	
R729	1-216-348-00	METAL OXIDE	0.82	5%	1W	F
R734	1-247-815-91	CARBON	220	5%	1/4W	
R735	1-247-815-91	CARBON	220	5%	1/4W	
R736	1-247-815-91	CARBON	220	5%	1/4W	
R744	1-247-756-11	CARBON	2.2K	5%	1/2W	
R745	1-247-756-11	CARBON	2.2K	5%	1/2W	
R746	1-247-756-11	CARBON	2.2K	5%	1/2W	
		< VARIABLE RESISTOR >				
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M				
RV702	1-241-656-21	RES, ADJ, METAL GLAZE 110M				

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REF.NO.	PART NO.	DESCRIPTION	REMARK
		MISCELLANEOUS	
		**********	
⚠	1-406-828-11	COIL, DEGAUSSING	
	1-452-032-00	MAGNET, DISC; 10MM Ø	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
	1-452-277-00	MAGNET, BMC	
⚠	1-453-169-11	TRANSFORMER ASSY, FLYBACK (UX-1604A2)	
	1-503-258-21	SPEAKER (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E/21M1L/21T1L/21M1U/21T1U)	
	1-504-899-11	SPEAKER (9X5CM) (KV-21M1K/21T1K/21T1R)	
⚠	1-540-006-22	CAP ASSY, HIGH-VOLTAGE	
⚠	1-571-433-21	SWITCH, PUSH (AC POWER)	
⚠	1-690-270-21	CORD, POWER (WITH CONNECTOR) 2.5A/250V (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/21M1E/21T1E/21M1L/21T1L/21M1U/21T1U)	
⚠	1-590-762-11	CORD, POWER (WITH PLUG) 2.5A/250V (KV-21M1L/21T1L/21M1U/21T1U)	
	8-598-331-00	TUNER (BT-AC401) (KV-21M1A/21T1A/21M1E/21T1E/21M1K/21T1K)	
	1-693-310-11	TUNER (TELE4-002B) (KV-21M1B/21T1B/21M1D/21T1D/21T1R)	
	1-693-302-11	TUNER (UV1315) (KV-21M1L/21T1L)	
	8-598-333-00	TUNER (BT-AU601) (KV-21M1U/21T1U)	
⚠	8-738-786-71	ITC	
⚠	8-451-295-45	DEFLECTION YOKE (Y21PFA2BA)	
V901 ⚠	8-738-784-05	PICTURE TUBE (SD-169)(A51JXH61X)	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
		ACCESSORIES AND PACKING MATERIALS	
		**********	
	1-770-783-11	CONNECTOR, CONVERSION (KV-21M1K/21T1K/21T1R)	
	4-203-438-41	MANUAL, INSTRUCTION (KV-21M1A/21T1A) (ITALIAN)	
	4-203-438-51	MANUAL, INSTRUCTION (KV-21M1B/21T1B) (FRENCH/ITALIAN/GERMAN/DUTCH)	
	4-203-438-11	MANUAL, INSTRUCTION (KV-21M1D/21T1D) (ENGLISH/DANISH/SWEDISH/FINNISH/ GREEK/DUTCH/TURKISH/NORWEGIAN)	
	4-203-439-11	MANUAL, INSTRUCTION (KV-21M1D/21T1D) (GERMAN/ENGLISH)	
	4-203-438-71	MANUAL, INSTRUCTION (KV-21M1E/21T1E) (SPANISH)	
	4-203-438-81	MANUAL, INSTRUCTION (KV-21M1E/21T1E) (PORTUGUESE/SPANISH)	
	4-203-440-91	MANUAL, INSTRUCTION (KV-21M1K/21T1K) (HUNGARIAN/POLISH/CZECH/ENGLISH/ RUSSIAN/BULGARIAN)	
	4-203-438-61	MANUAL, INSTRUCTION (KV-21M1L/21T1L/21M1U/21T1U) (ENGLISH)	
	4-203-441-91	MANUAL, INSTRUCTION (KV-21T1R) (RUSSIAN/BULGARIAN/ENGLISH)	
	*4-042-477-01	BAG, PROTECTION (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/ 21M1E/21T1E)	
	*4-039-905-02	BAG, PROTECTION (KV-21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/ 21T1U)	
	*4-203-447-01	INDIVIDUAL CARTON (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/ 21M1E/21T1E)	
	*4-203-477-11	INDIVIDUAL CARTON (KV-21M1K/21T1K/21M1L/21T1L/21T1R)	
	*4-203-446-01	INDIVIDUAL CARTON (KV-21M1U/21T1U)	
	*4-203-444-01	CUSHION (LOWER) (ASSY) (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/ 21M1E/21T1E)	
	*4-203-444-11	CUSHION (LOWER) (ASSY) (KV-21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/ 21T1U)	
	*4-203-445-01	CUSHION (UPPER) (ASSY) (KV-21M1A/21T1A/21M1B/21T1B/21M1D/21T1D/ 21M1E/21T1E)	
	*4-203-445-11	CUSHION (UPPER) (ASSY) (KV-21M1K/21T1K/21M1L/21T1L/21T1R/21M1U/ 21T1U)	
		REMOTE COMMANDER	
		**********	
	1-473-194-11	COMMANDER, STANDARD TYPE (RM-836)	

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SERVICE MANUAL

BE-4A CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-21M1A	RM-836	Italian	SCC-J05E-A
KV-21T1A	RM-836	Italian	SCC-J05D-A
KV-21M1B	RM-836	French	SCC-J06G-A
KV-21T1B	RM-836	French	SCC-J06F-A
KV-21M1D	RM-836	AEP	SCC-J08F-A
KV-21T1D	RM-836	AEP	SCC-J08E-A
KV-21M1E	RM-836	Spanish	SCC-J04F-A
KV-21T1E	RM-836	Spanish	SCC-J04E-A
KV-21M1K	RM-836	OIRT	SCC-J03J-A
KV-21T1K	RM-836	OIRT	SCC-J03G-A
KV-21M1L	RM-836	Irish	SCC-J02D-A
KV-21T1L	RM-836	Irish	SCC-J02C-A
KV-21T1R	RM-836	OIRT	SCC-J03H-A
KV-21M1U	RM-836	UK	SCC-J01E-A
KV-21T1U	RM-836	UK	SCC-J01D-A

SUPPLEMENT - 1

SUBJECT : CHANGE OF PART NUMBER

File this supplement with the service manual

INTRODUCTION : Change of Part Number due to Beznet Assy

NOTE: This Supplement applies to the following models:-
KV-21M1K, KV-21T1K, KV-21T1R

- **SECTION 5 DIAGRAMS**
  (A board, Page 31) .... See page 2
  (C board, Page 35) ..... See page 5

- **SECTION 6 EXPLODED VIEWS**
  6-1. CHASSIS (Page 38) ..... See page 6

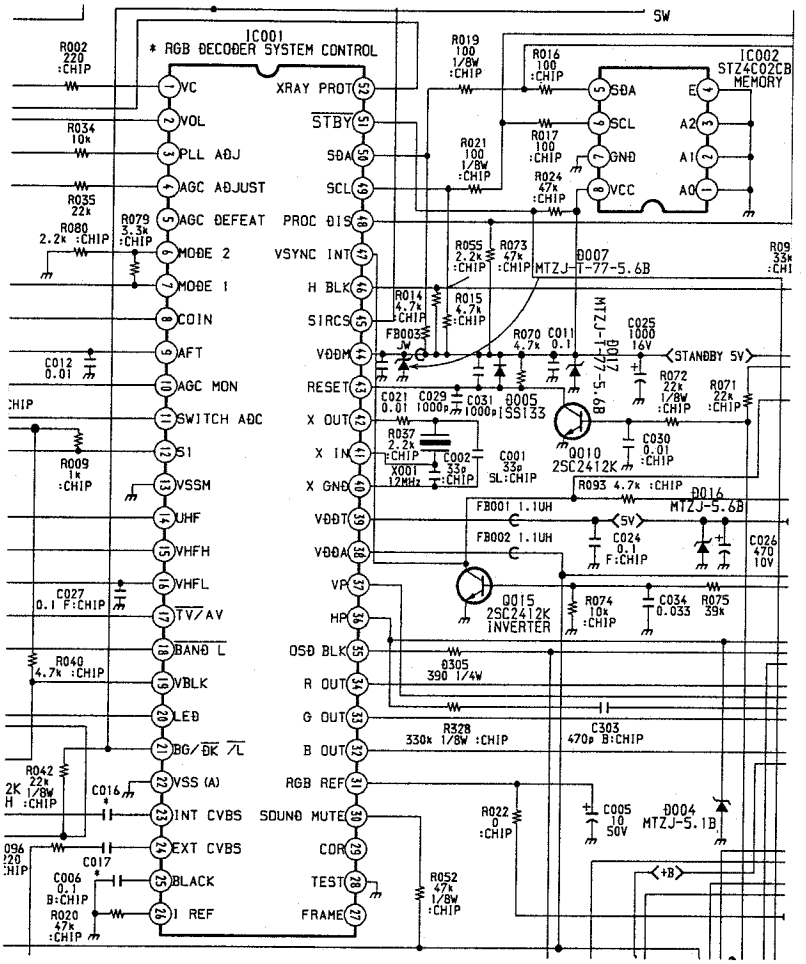
- **SECTION 7 ELECTRICAL PARTS LIST** (Page 40) ..... See page 7

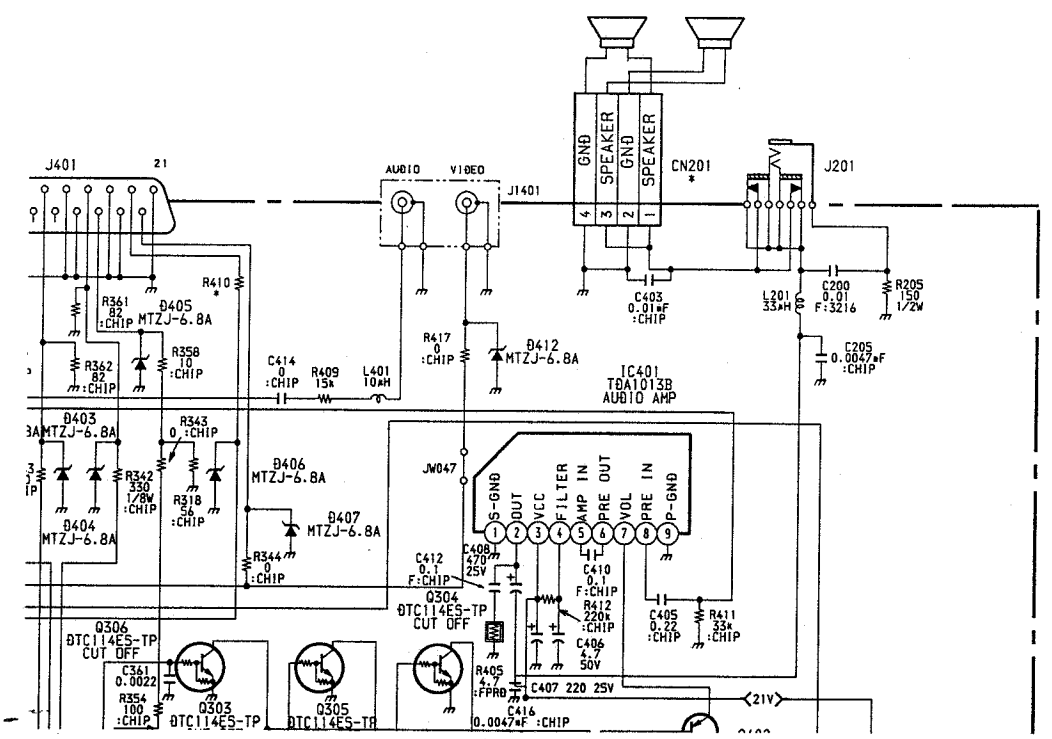
MICROFILM

TRINITRON® COLOR TV

SONY®

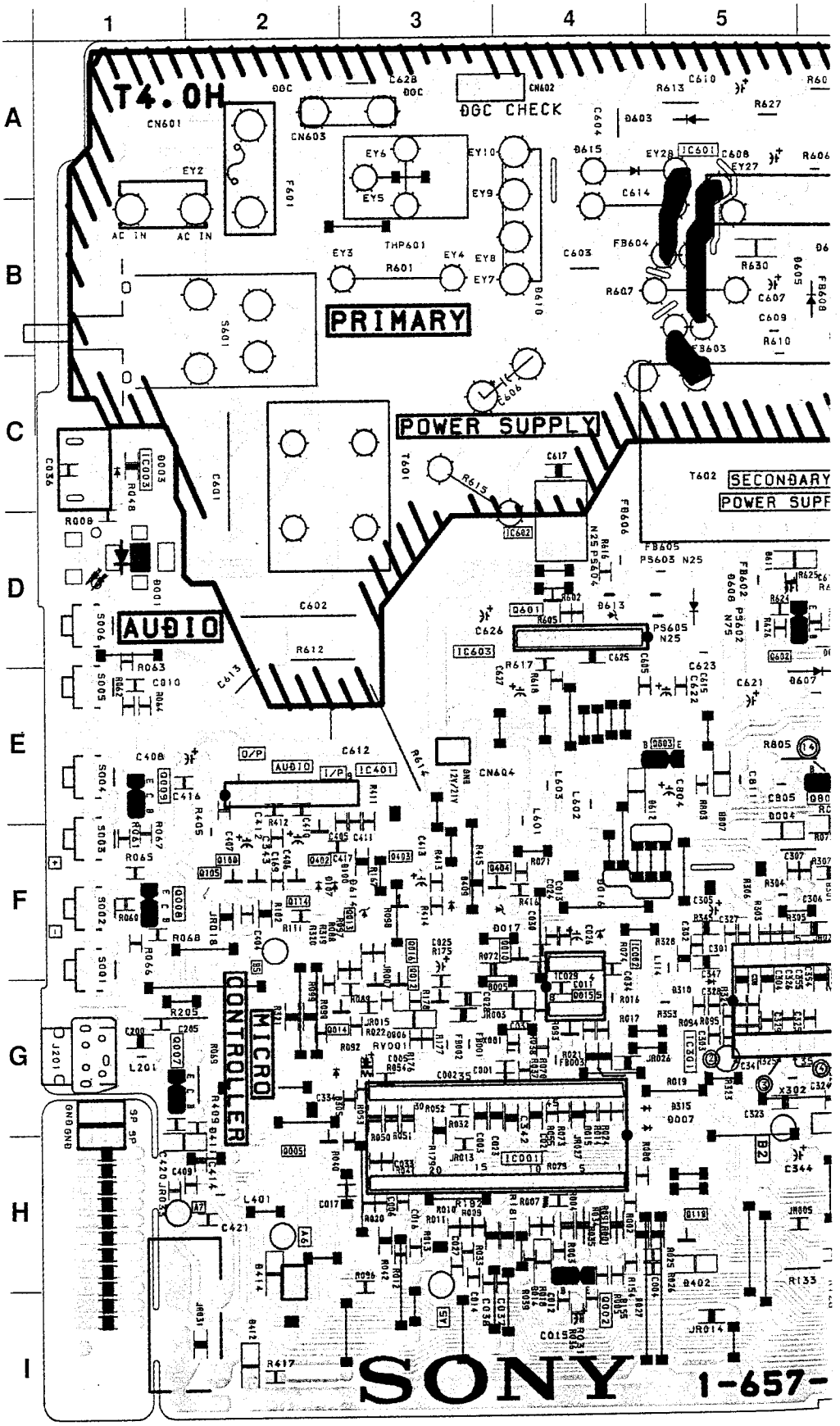
– A Board –


IC001
* RGB DECODER SYSTEM CONTROL
IC002
ST24C02CB
MEMORY
SW
XRAY PROT
STBY
SDA
SCL
PROC DIS
VSYNC INT
H BLK
SIRCS
VDDM
RESET
X OUT
X IN
X GND
VDDT
VDDA
VP
HP
OSD BLK
R OUT
G OUT
B OUT
RGB REF
SOUND MUTE
COR
TEST
FRAME
VC
VOL
PLL ADJ
AGC ADJUST
AGC DEFEAT
MODE 2
MODE 1
COIN
AFT
AGC MON
SWITCH ADC
S1
VSSM
UHF
VHFH
VHFL
TV/AV
BAND L
VBLK
LED
BG/BK/L
VSS (A)
INT CVBS
EXT CVBS
BLACK
I REF
STANDBY 5V
5V
+B
Q007 MTZJ-T-77-5.6B
Q017 MTZJ-T-77-5.6B
Q005 1SS133
Q010 2SC2412K
Q015 2SC2412K INVERTER
D016 MTZJ-5.6B
D004 MTZJ-5.1B
D305 390 1/4W
R328 330k 1/8W :CHIP
C303 470p B:CHIP
X001 12MHz
FB001 1.1UH
FB002 1.1UH
FB003 JW


J401
AUDIO
VIDEO
J1401
GND
SPEAKER
GND
SPEAKER
CN201 *
J201
IC401
TDA1013B
AUDIO AMP
D405 MTZJ-6.8A
D412 MTZJ-6.8A
D403 MTZJ-6.8A
D404 MTZJ-6.8A
D406 MTZJ-6.8A
D407 MTZJ-6.8A
JW047
S-GND
OUT
VCC
FILTER
AMP IN
PRE OUT
VOL
PRE IN
P-GND
Q304 DTC114ES-TP CUT OFF
Q306 DTC114ES-TP CUT OFF
Q303 DTC114ES-TP
Q305 DTC114ES-TP
21V

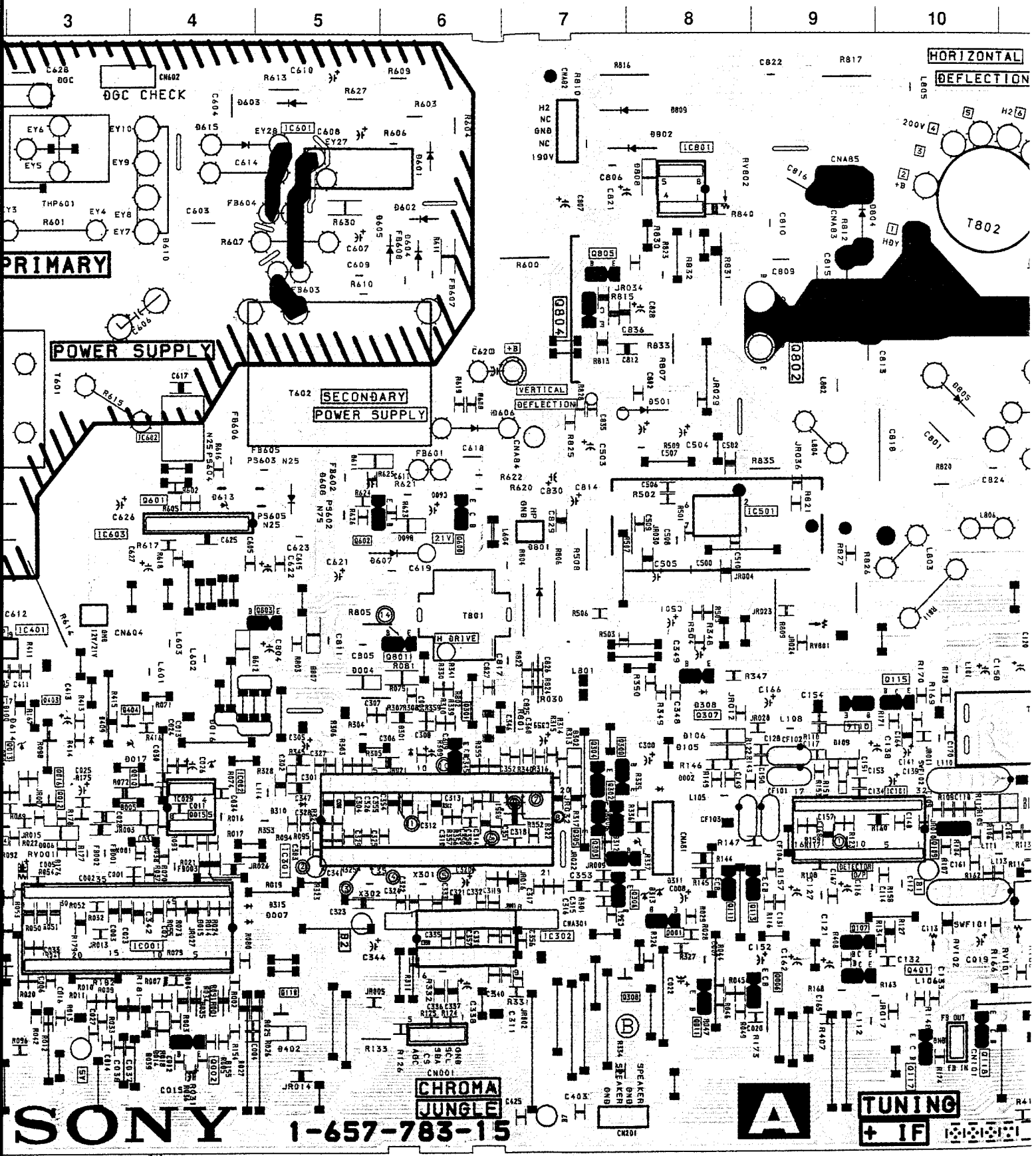
A SYSTEM CONTROL, HORIZONTAL OUTPUT, VERTICAL OUTPUT, CHROMINANCE, POWER, AUDIO

– A Board –

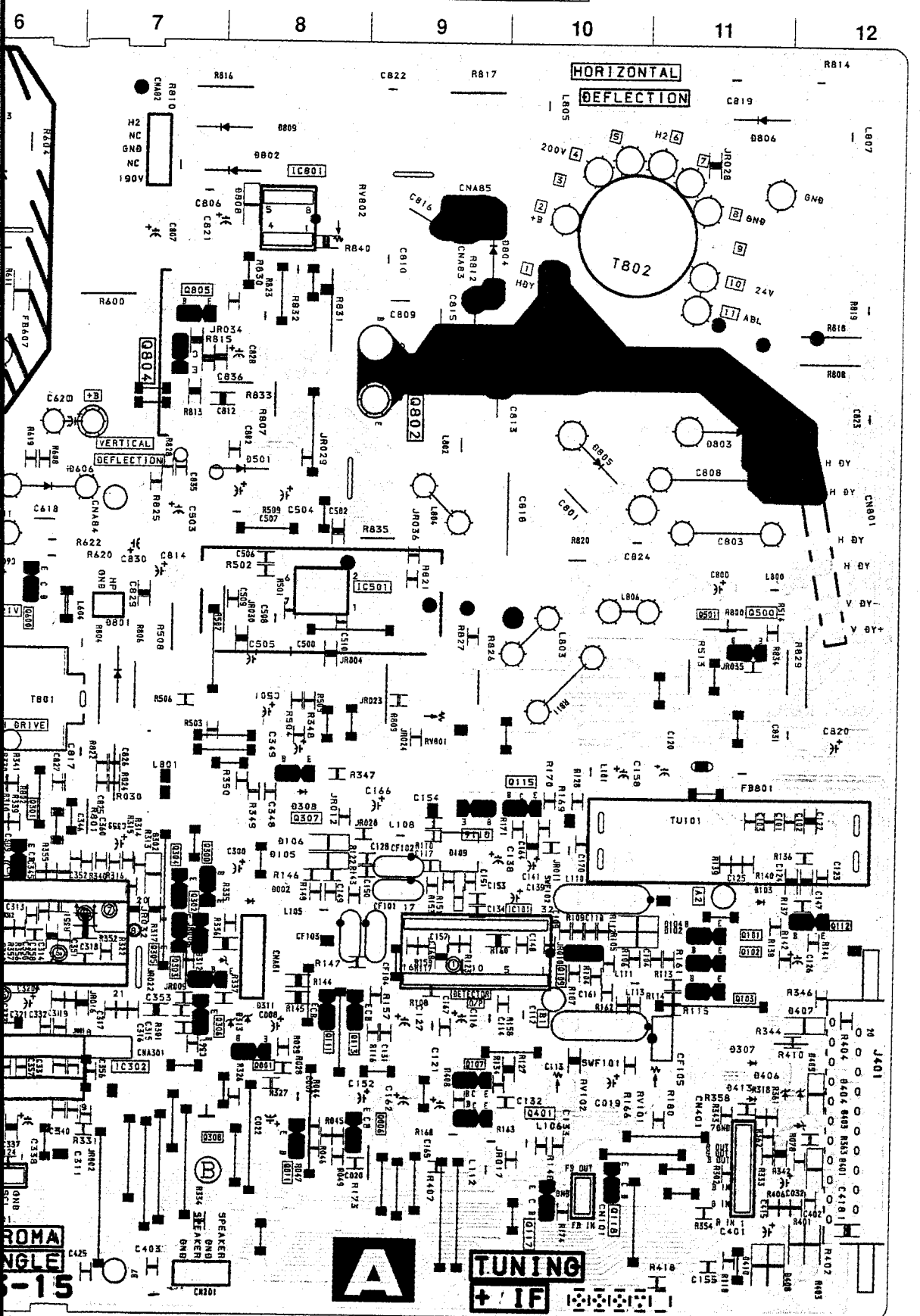


ONTAL OUTPUT,
MINANCE,

NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

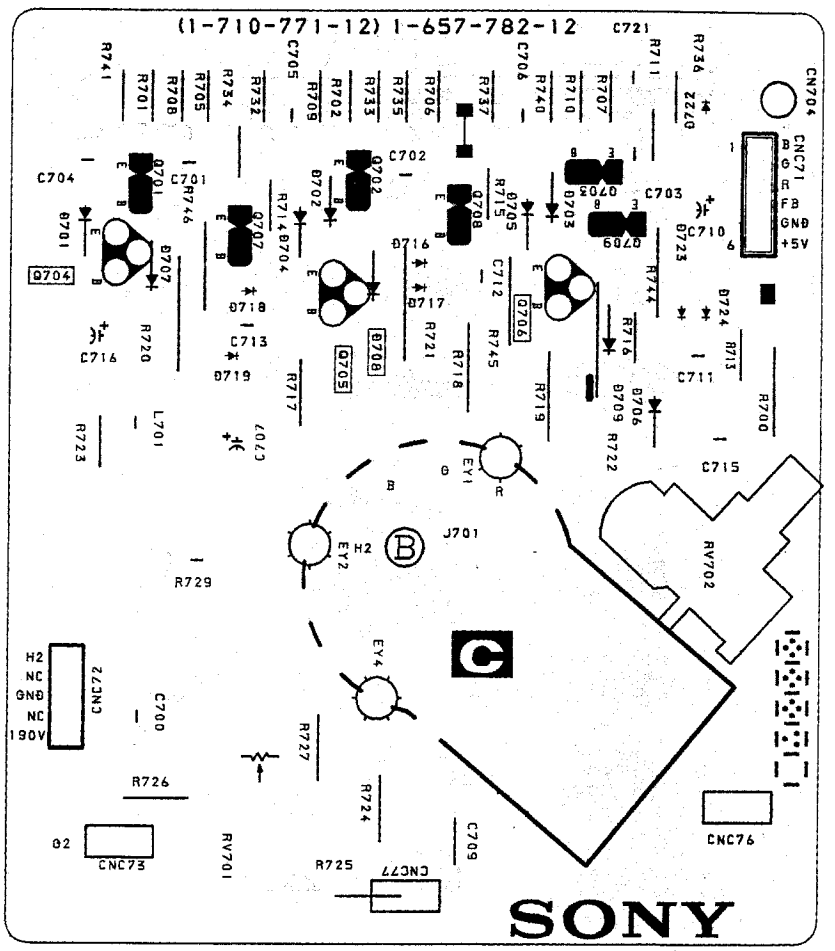


NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

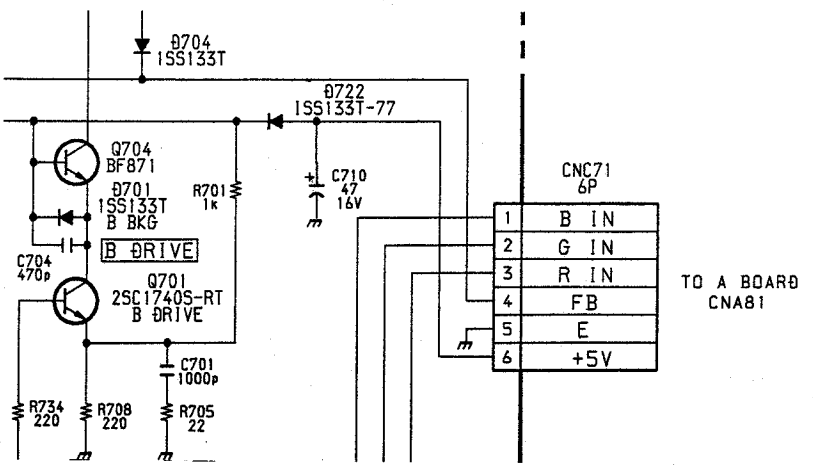


C [R,G,B OUT]

– C Board –



– C Board –



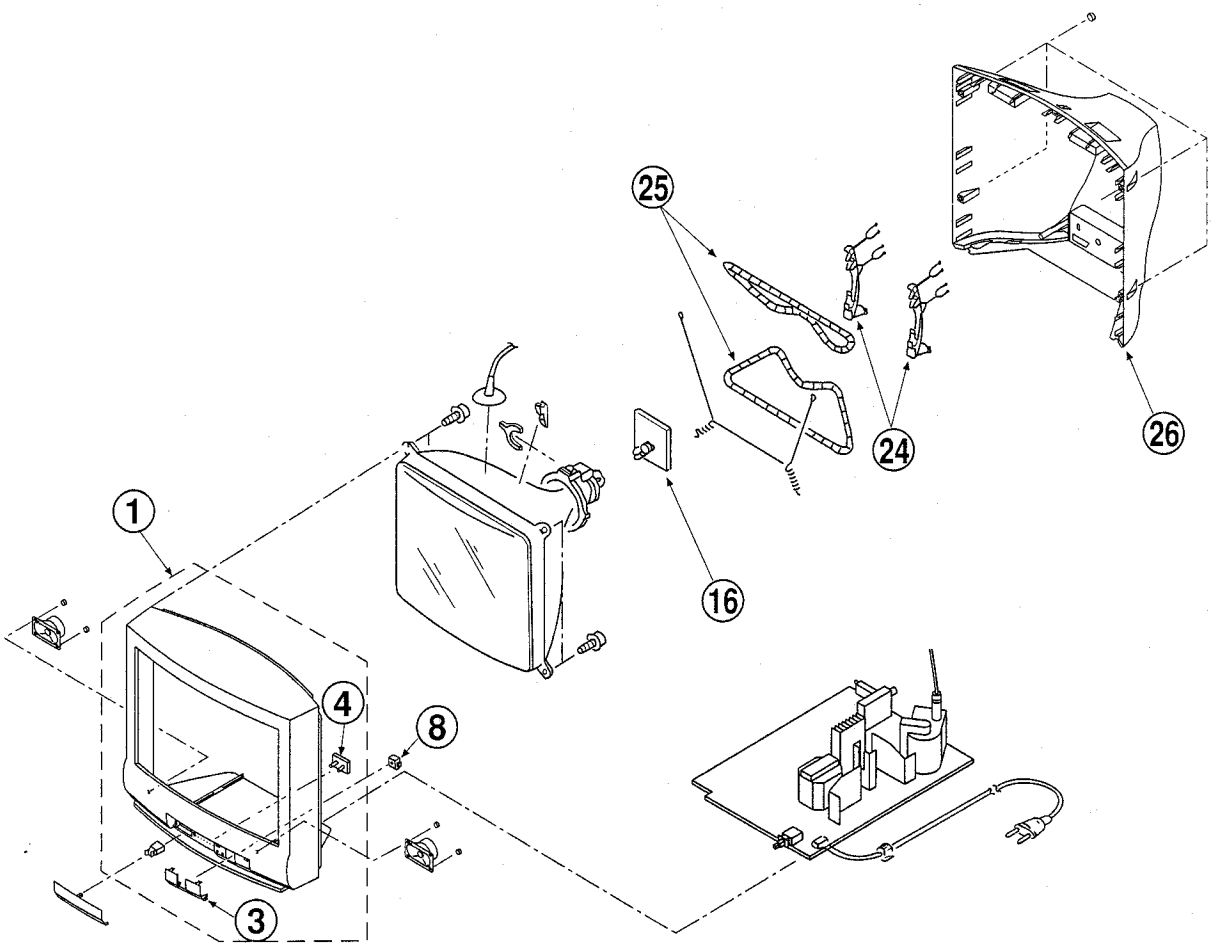
SECTION 6
EXPLODED VIEWS

NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked ⚠ are critical for safety. Replace only with the part number specified.	Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

6-1. CHASSIS



REF NO	PART NO	DESCRIPTION	REMARK
1	X-4200-267-2	BEZNET ASSY	
3	4-203-432-11	WINDOW	
4	*4-203-431-11	GUIDE, LIGHT	
8	4-203-433-11	BUTTON, POWER	
16	*A-1638-068-A	C BOARD, COMPLETE	
24	*4-386-622-01	BAND, DGC	
25	1-406-612-11	COIL, DEGAUSSING	
26	4-203-437-02	COVER (REAR)	

SECTION 7
ELECTRICAL PARTS LIST

When indicating parts by reference number, please include the board name.

CAPACITORS
MF : mF, PF : mmF

COILS
MMH : mH, μH : mH

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

REF NO	PART NO	DESCRIPTION	REMARK
		*A BOARD, COMPLETE **********	
		< CAPACITOR >	
C016		NOT USED (KV-21M1K)	
C017		NOT USED (KV-21M1K)	
C034	1-130-489-00	FILM 0.033MF 20% 50V	
C106		NOT USED	
C107		NOT USED	
C205	1-163-017-00	CERAMIC CHIP 0.0047MF 5% 50V	
C361	1-164-161-11	CERAMIC CHIP 0.0022MF 5% 50V	
C403	1-163-031-11	CERAMIC CHIP 0.01MF 5% 50V	
C409		NOT USED	
C416	1-163-017-00	CERAMIC CHIP 0.0047MF 5% 50V	
		< FILTER >	
CF102	1-409-327-00	TRAP, CERAMIC (KV-21M1K)	
		< DIODE >	
D007	8-719-109-89	DIODE MTZJ-T-77-5.6B	
D016	8-719-109-89	DIODE MTZJ-T-77-5.6B	
D017	8-719-109-89	DIODE MTZJ-T-77-5.6B	
		< IC >	
IC001	8-759-452-21	IC SAA5290ZP/052 (KV-21TIK)	
	8-759-452-19	IC SAA5288ZP/024 (KV-21MIK)	
	8-759-452-20	IC SAA5290ZP/054 (KV-21TIR)	
IC002	8-759-251-04	IC ST24C02FB6	
IC003	8-742-014-10	IC SBX1981-51	
		< RESISTOR >	
JW101		NOT USED	
R122	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R143		NOT USED (KV-21T1K, KV-21M1K)	
R318	1-216-021-00	METAL GLAZE 68 5% 1/10W	
R358	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R401	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R808	1-260-114-11	CARBON 18K 1/2W	
R818	1-260-115-11	CARBON 22K 1/2W	

REF NO	PART NO	DESCRIPTION	REMARK
		*A-1638-068-A C BOARD, COMPLETE **********	
		< DIODE >	
D722	8-719-991-33	DIODE ISS133T-77	
		< RESISTOR >	
R724	1-260-117-11	CARBON 33K 10% 1/2W	

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